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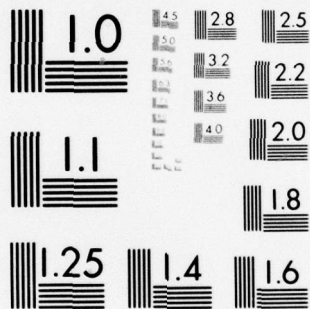
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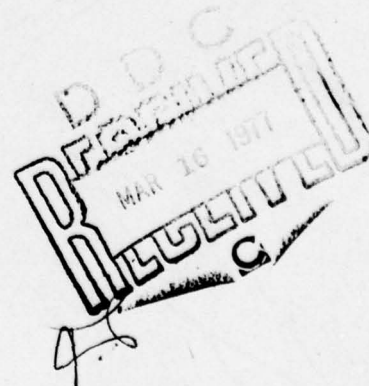
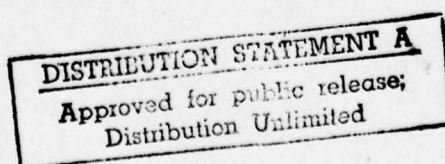
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AN EXTENDED SET OF COSMIC RAY VARIATIONAL  
COEFFICIENTS FOR EUROPEAN COSMIC RAY STATIONS

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INSTITUT FÜR REINE UND ANGEWANDTE KERNPHYSIK

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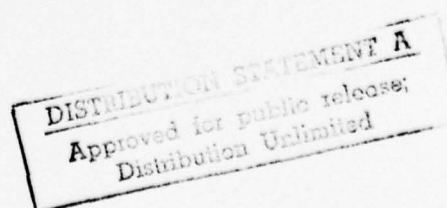
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AN EXTENDED SET OF COSMIC RAY VARIATIONAL  
COEFFICIENTS FOR EUROPEAN COSMIC RAY STATIONS

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AN EXTENDED SET OF COSMIC RAY VARIATIONAL  
COEFFICIENTS FOR EUROPEAN COSMIC RAY STATIONS

ABSTRACT

Variational coefficients quantitatively relate cosmic-ray spatial anisotropies and spectral changes to variations in ground-based cosmic ray monitor counting rates. We have calculated variational coefficients that are applicable to the analysis of a wide variety of transient cosmic-ray phenomena. These calculations have been made for (1) a wide range of upper limiting rigidities from 29 to 500 GV; (2) power law rigidity spectra extending to exponents as high as  $\pm 1.6$ ; (3) spatial profiles independent of latitude; and (4) longitudinal profiles including square waves of  $10^\circ$ ,  $30^\circ$ ,  $60^\circ$  and an isotropic case. These variational coefficients have been calculated for eleven European cosmic ray stations, the tables being compatible with a previous publication for stations in the Western Hemisphere.

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## PREFACE

The concept of variational coefficients, which quantitatively relate cosmic ray spatial anisotropies and spectral changes to variations in ground-based cosmic ray monitor counting rates, was introduced in 1963. Since that time three sets of variational coefficients have been published. The first two sets of tables were intended primarily for studies of diurnal variations, and as such contained limiting factors that made the use of these tables impractical for the study of other transient phenomena. In the third set of tables the variational coefficients for the American stations were extended with the removal of the original limiting factors, thus making these tables applicable for a variety of transient cosmic ray phenomena. Here in this extended set of variational coefficients the corresponding tables for European stations are now published, making possible the evolution of the longitudinal dependence and the temporal evolution of an anisotropy in the European-American range of longitudes.

It is necessary to know the asymptotic directions of cosmic-ray particles detected at a specific point on the earth for the calculation of the variational coefficients. These values were determined using a geomagnetic field model appropriate for 1975. A computer tape containing the asymptotic directions utilized in these tables has been deposited in World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado 80302, USA.

The authors gratefully thank Mr. S.R. Weniger for his valuable assistance with the calculations contained in this report.

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## 1. INTRODUCTION

Variational coefficients, which quantitatively relate spatial and spectral cosmic ray anisotropies to changes in ground-based cosmic ray detector counting rates, are the key to our detailed understanding of such cosmic ray features as the diurnal variation. The concept of the variational coefficients was introduced by Rao et al. (1963), and three sets of tables have been published (McCracken et al., 1965; Shea et al., 1968; Gold et al., 1974). In spite of their ability to separate and analyze spatial and spectral sources of cosmic ray time variations, variational coefficients have not been widely used. We believe that one of the factors leading to the low usage are scientific limitations in the first two tables and geographical limitations in the third set. The first two tables of variational coefficients were oriented toward studies of the diurnal variation and they contain an unrealistically high upper limiting rigidity ( $R_{\max}$ ) for the anisotropy. While the high  $R_{\max}$  produced errors of less than 25 percent in diurnal wave analysis, it is a much more severe limitation for anisotropies with amplitudes that increase with rigidity. The variational coefficients in the IQSY tables also include latitudinal and longitudinal dependences that are inappropriate for a number of cosmic ray phenomena as well as an insufficient range of spectra.

Since most neutron monitor cosmic ray events are characterized by counting rate changes on the order of only a few percent, reliable measurements can be made only with detectors having high counting rates. Only the superneutron monitors (NM-64) have sufficient counting rates at sea level for accurate measurements, but they are not distributed in an idealized network (Shea, 1972; Gold et al., 1975). Since most events are transient in nature or undergo considerable temporal evolution, measurements must be completed in a relatively short time. Spatial and spectral features of an anisotropy can be separated, however, only with



data from both a chain of cosmic ray monitors that cover a wide range of longitudes from which the longitudinal dependence and its temporal evolution can be determined and a second chain that covers a wide range of latitudes which yields the spectrum and latitudinal profile.

In an attempt to make the original tables of variational coefficients applicable for a variety of transient cosmic ray phenomena, an extended set of cosmic ray variational coefficients, with the removal of the original limiting factors, was published by Gold et al., (1974) for the following neutron monitor locations in the Western Hemisphere: Alert, Inuvik, Goose Bay, Deep River, Dallas, Mexico City, Chacaltaya, and Kula. In the present report, a similar set of tables for European neutron monitors, extending from Apatity in the north to Athens in the south are presented, thus expanding the global area over which analysis of identical transient phenomena can be undertaken.

## 2. ASYMPTOTIC CONES OF ACCEPTANCE

Ground-based cosmic ray monitors are useful in the study of cosmic ray anisotropies in space. However, in order to understand the relationship between observed cosmic ray time variations and spatial anisotropies, a thorough knowledge of the interdependence of asymptotic arrival directions and energies is required.

The asymptotic direction of a cosmic ray particle is generally determined by the trajectory-tracing technique in which the orbit of the particle with a specific rigidity is traced by numerical integration through a mathematical representation of the geomagnetic field. Asymptotic directions for particles with different rigidities are then utilized to determine the asymptotic cone of acceptance for a specific location on the earth. Both the asymptotic directions for a selected set of rigidities and the cutoff rigidity for each station must be determined for the calculation of the variational coefficients.

For the tables in this report, these values have been calculated using the International Geomagnetic Reference Field model of the quiescent internal geomagnetic field with the time derivatives applied such that the coefficients are appropriate for describing the geomagnetic field for Epoch 1975.0 (IAGA Commission 2, Working Group 4, 1969). Details of these type of calculations for the vertically incident cosmic ray particles are given by Shea and Smart (1975). All previous calculations of the variational coefficients (McCracken et al., 1965, Shea et al., 1968; Gold et al., 1974) were made utilizing asymptotic directions and cutoff rigidity values calculated with the coefficients for the Finch and Leaton geomagnetic field model which were derived for a 1955.0 Epoch (Finch and Leaton, 1957). It is emphasized that the different epochs of the magnetic field utilized in these calculations are not a limitation for their joint use. Although the vertical cutoff rigidities for stations such as Buenos Aires

and Mexico City have changed significantly over this 20-year interval (Shea, 1971), the corresponding changes in the variational coefficients are small.

The asymptotic cone of acceptance as defined by McCracken (1962) is the asymptotic solid angle containing the particle trajectories which make significant contributions to the detector counting rate. The properties of asymptotic cones of acceptance have been discussed in detail by Rao et al. (1963) so only some general properties will be listed here.

The asymptotic cone of acceptance for a given station is not a simple geometric region of detector sensitivity centered over the station meridian. Rather, asymptotic cones form complex shapes on the celestial sphere. Yet, there are some consistent properties related to the station location.

(1) Equatorial cosmic ray stations tend to have asymptotic cones that are relatively narrow in latitude and quite wide in longitude. For example, Ahmedabad, India (latitude  $23.01^{\circ}\text{N}$ , longitude  $72.61^{\circ}\text{E}$ , geomagnetic vertical cutoff rigidity  $15.98\text{ GV}^*$ ) has an asymptotic cone that is close to the equator with a latitude spread of  $\pm 20^{\circ}$  and a longitudinal width of  $\sim 180^{\circ}$ .

(2) Mid-latitude stations, from about  $30^{\circ}$  to  $70^{\circ}$  geomagnetic latitude, have cones with large latitude spreads and narrower longitude spreads but still have a significant fraction of their sensitivity near the equator. Thus, for Kiel, FRG (latitude  $54.33^{\circ}\text{N}$ , longitude  $10.13^{\circ}\text{E}$ , geomagnetic vertical cutoff rigidity  $2.28\text{ GV}$ ), the width of the asymptotic cone in latitude and longitude is about  $40^{\circ}$  and  $100^{\circ}$  respectively. Among the mid-latitude stations there is a systematic change of asymptotic cone shape with station latitude. The cones tend to be narrower in

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\*Vertical cutoff rigidities in this report are those calculated with a 1975 representation of the geomagnetic field. Earlier publications of variational coefficients gave vertical cutoff rigidities as calculated using a 1955 representation of the geomagnetic field.

longitude but more widely spread in latitude as the station latitude rises. However, stations in this group, up to a geomagnetic latitude of approximately  $45^{\circ}$ , still have most of their sensitivity near the equator. Only those stations above about  $50^{\circ}$  geomagnetic latitude record a significant fraction of their counts from non-equatorial directions. For Inuvik, Canada, which is near the high latitude end of this group (latitude  $68.35^{\circ}\text{N}$ , longitude  $226.27^{\circ}\text{E}$ , geomagnetic vertical cutoff rigidity  $0.17\text{ GV}$ ), the latitude range is about  $70^{\circ}$  while the longitude spread is only about  $10^{\circ}$ .

(3) Polar cosmic ray stations have cones that for galactic cosmic ray responses are compact in both latitude and longitude. For example, Thule, Greenland (latitude  $76.55^{\circ}\text{N}$ , longitude  $291.16^{\circ}\text{E}$ , geomagnetic vertical cutoff rigidity approximately  $0.0\text{ GV}$ ) has an asymptotic cone that spreads only about 15 degrees in both latitude and longitude.

For positive particles, the geomagnetic field shifts the sensitivity peaks of all stations to an asymptotic position east of the station location. This magnetic deflection ranges from as little as  $10^{\circ}$  for polar stations to more than  $70^{\circ}$  for some mid-latitude stations.



### 3. VARIATIONAL COEFFICIENTS

Because of the complexity of the geomagnetic field, the asymptotic cones of acceptance of cosmic ray stations may be quite different, even for stations at the same latitude or longitude. The quantitative comparison of counting rate changes at different stations requires a detailed knowledge of the combined effects of the asymptotic cosmic ray trajectories, their positions as a function of rigidity, the coupling coefficients (as defined by Dorman, 1957) for the detector and the spatial and rigidity dependence of the anisotropy. The effects of each of these factors have been combined by Rao et al. (1963) in the concept of the variational coefficient.

If the isotropic differential cosmic ray intensity is  $J_0(R)$  where  $R$  is the particle rigidity and there is an anisotropy in an element of asymptotic solid angle  $\Omega_i$  that can be expressed as  $J_i(R) = J_0(1 + A_i R^\beta)$  then the fractional change in the detector counting rate resulting from the anisotropy  $J_0 A_i R^\beta$  is

$$\frac{dN(\Omega_i)}{N} = A_i v(\Omega_i, \beta)$$

where  $v(\Omega_i, \beta)$  is the variational coefficient. Rao et al. (1963) have shown that the variational coefficients are given by

$$v(\Omega_i, \beta) = \int_{R_{\text{cut off}}}^{\infty} W(R) R^\beta U(\Omega_i, R) dR$$

where  $W(R)$  is the coupling coefficient for the detector and  $U(\Omega_i, R)$  describes the accessibility to the detector of particles in the asymptotic solid angle  $\Omega_i$  which have rigidity  $R$ . Since the asymptotic cones of cosmic ray stations vary considerably, their responses to an anisotropy may be quite different even though the anisotropy is constant with time.

The variational coefficients describe the change in counting rate resulting from an anisotropy in a small solid angle, so if the variational

coefficients for all solid angles are known, the effects of any hypothetical anisotropy on the counting rate of a given detector may be calculated. An example of how the variational coefficients of stations in different latitudes can reveal the true nature of the structure of a free space anisotropy has been given for American stations (Gold et al. 1974). A similar example for Europe is not possible because there are no true polar nor equatorial cosmic ray stations in the European range of longitudes.

#### 4. COMPARISON WITH EXISTING TABLES OF VARIATIONAL COEFFICIENTS

In order to use the variational coefficients to determine a station response to a given anisotropy, the spatial structure and the rigidity spectrum of the anisotropy must be included in the calculation. The IQSY tables of variational coefficients (McCracken et al., 1965; Shea et al., 1968) list the cutoff rigidities, trajectories and variational coefficients for 127 cosmic ray stations. However, the IQSY tables were oriented toward the study of the cosmic ray diurnal variations and have three features built into them which severely limit their usefulness in the study of transient cosmic ray phenomena.

(1) The anisotropy in the IQSY tables was assumed to have an upper limiting rigidity of 500 GV. Although the diurnal variation is not effective up to this extreme limit, the error introduced by extending the calculation to 500 GV was small since the sensitivity of neutron monitors is quite low at these high rigidities and the diurnal wave is essentially independent of rigidity. Transient anisotropies, on the other hand, may have positive exponents, and events have been observed (Gold and Peacock, 1973) with  $\beta$  as high as +1.8. With these sharply-rising rigidity spectra the anisotropy becomes very large at high rigidities and it becomes important to accurately specify the upper limiting rigidity ( $R_{\max}$ ), otherwise there may be large errors in the calculation. A series of six values of  $R_{\max}$  covering the range from 29 to 500 GV have been chosen for the tables included in this report, and it is felt that they form a useful set for the description of most phenomena.

(2) The IQSY tables were calculated for power law spectra with  $\beta$  covering the range from -1.5 to +0.6. While the lower end of the  $\beta$  range is sufficient, there are cosmic ray modulation phenomena which have exponents higher than  $\beta = +0.6$ . The semidiurnal anisotropy, for example, (Pomerantz and Duggal, 1971, and references therein) has been shown to have a spectrum that is proportional to rigidity ( $\beta = 1$ ) with

considerable spectral fluctuations from day to day, while Gold and Peacock (1973) have analyzed transient (fwhm  $\sim 4$  hrs) Forbush predecreases with values from +0.2 to +1.8.

Phenomenological models that include a rising rigidity spectrum and a sharp cutoff at  $R_{\max}$  are poor approximations in the vicinity of  $R_{\max}$  as the actual modulation would certainly exhibit a more gradual cutoff. Spectral functions such as a power law multiplying an exponential may be more realistic on both physical and theoretical grounds. However, such functions would require recalculation of the variational coefficients for each case and are not practical alternatives for a set of tables designed for general use. Thus, the tables included in this report have been calculated for power law anisotropies with exponents ranging from -0.2 to +1.6 and sharp upper rigidity cutoffs. The user is cautioned not to attach too much significance to spectral features near the upper cutoff.

(3) The computational method requires that the latitude dependence be included in the individual  $v(\Omega_i, R)$  and cosine of the asymptotic latitude was included in the IQSY tables. The cosine is not a very severe limitation on the use of the tables since the asymptotic cones of all but the polar stations are concentrated near the equator where the latitude function is only a perturbation on the detector response. The tables presented in this report, however, have been calculated for anisotropies that are independent of latitude, which makes little difference for equatorial and mid-latitude stations but permits the polar stations to be used to determine the latitude dependence of an observed anisotropy.

The longitudinal dependences in the IQSY tables were sine waves with periods of  $180^\circ$  and  $360^\circ$  to simulate the semidiurnal and diurnal anisotropies. For transient phenomena an aperiodic function such as a square pulse would be more appropriate. The exact profile of the pulse (square, sine, Gaussian, etc.) is not critical for pulses up to about  $90^\circ$  in width. As long as the full width at half maximum of the pulses are the same, the wide asymptotic cones of most stations are unable to



distinguish among the various profiles. Only the polar stations and the extreme stations of the mid-latitude group have asymptotic cones that are longitudinally compact enough to separate different pulse shapes. Three longitudinal profiles corresponding to different widths of square waves have been included in the tables presented in this report along with diurnal and semidiurnal waves and an isotropic profile.

## 5. CHOICE OF STATIONS

All cosmic ray phenomena undergo temporal evolution; however, it is in the analysis of well-defined spatial anisotropies that the effects of temporal development are particularly severe. The idealized network (Gold, et al., 1975) would be a group of stations with asymptotic cones that are well clustered in longitude but spread in latitude so that a sufficient number of measurements may be taken at the same time to provide a "snapshot" of the event. Since equatorial and mid-latitude stations have the bulk of their sensitivity near the equator and cover a wide range of cutoff rigidities, they may be used to determine the rigidity spectrum of the anisotropy. The range of stations from the high mid-latitude group (geomagnetic vertical cutoff rigidity  $\lesssim 1$  GV) through the polar group all have the same effective vertical cutoff rigidity (atmospheric) while their asymptotic cones cover a wide range of latitudes. Once the rigidity spectrum is known, the variational coefficients for these stations may be used to estimate the latitudinal structure of an anisotropy.

Only the American chain of stations from Chacaltaya on the equator up to the polar station Alert fulfill these conditions of being clustered in asymptotic longitude but having a wide spread in asymptotic latitude. Therefore, data from these stations can be used to analyze well-defined spatial anisotropies without disturbance of temporal development. The somewhat restricted rigidity span covered by the European group of stations is not sufficient for identical analyses since the asymptotic cone of the most northerly station, Apatity, still extends down to the equator while the cutoff of the most southerly station, Athens, is only 8.55 GV. All cosmic ray phenomena undergo temporal evolution, the amplitude of the anisotropy most likely changing in the course of time. However, it may be difficult to observe this phenomena utilizing data solely from the American chain of stations. In addition it is necessary to have the variational coefficients from stations in another range of longitudes to

observe the development of the longitudinal profile of an anisotropy. To delineate features such as these, the variational coefficients of the European stations, when combined with those published for the American stations, may be extremely useful. The stations selected for the tables in this report are Apatity, Oulu, Leeds, Kiel, Utrecht, Dourbes, Kiev, Jungfraujoch, Pic du Midi, Rome and Athens.

## 6. USE OF THE VARIATIONAL COEFFICIENTS

One reason that the variational coefficients have only occasionally been applied to the analysis of cosmic ray phenomena is that many researchers are unfamiliar with their use. Actually, all applications of the coefficients are simply fits of the values in the tables to the observed counting rate changes. The five characteristics of an observed cosmic ray anisotropy which can be determined with the aid of variational coefficients are its longitudinal, temporal and spectral dependence, the amplitude of the anisotropy and its latitudinal profile. However, because of the wide asymptotic cones of acceptance and the rigidity range of most cosmic ray monitors, these characteristics of the anisotropy mutually interact and are most easily separated when they are calculated in the order stated.

The determination of the longitudinal profile must be done with data from similar asymptotic latitudes to prevent contamination by any latitude effects. Therefore, a ring of equatorial or mid-latitude stations may be used since they all have the major fraction of their sensitivity centered near the equator. The equatorial stations have asymptotic cones of acceptance that are more closely confined to equatorial regions so they are not as disturbed by strong latitudinal profiles. But the resulting longitudinal profile of the anisotropy is strongly model-dependent, and these stations, with their wide asymptotic cones, can still only define the full width half maximum of an anisotropy that is significantly narrower than the asymptotic cone. Mid-latitude stations tend to have asymptotic cones which are more confined longitudinally and therefore yield more accurate profiles. Stations with very narrow asymptotic cones can almost give the longitudinal profile directly. The temporal dependence of the anisotropy may be found by fitting the anisotropy to the data from more westerly stations at later times and comparing the ratios of the observed change in counting rate to the variational coefficient amplitude for the chosen stations as a function of time.



The rigidity spectrum of the anisotropy may be determined by fitting the appropriate model to the observations (see Appendix A for diurnal waves, Appendix C for square waves and isotropic disturbances). The stations used in the spectral analysis must have similar asymptotic cones yet cover as wide a range of cutoff rigidity as possible. Uncertainties in cosmic ray measurements are usually relatively large since they include not only counting rate errors but also cosmic ray modulations such as the diurnal variation. Thus, in some cases it may not be possible to determine  $\beta$  and  $R_{\max}$  uniquely, and a curve of  $\beta$  and  $R_{\max}$  combinations may be the best that the data permits.

All the tables in the appendices are normalized to 100 percent at 1 GV; thus the amplitude of the anisotropy is simply the ratio of the observed variation to that predicted by the tables.

In principle, the latitude dependence could be found, once the spectrum is known, from the ratio of observed to predicted variations of stations with similar cutoff rigidities and asymptotic longitude but different asymptotic latitudes. The European chain of stations, by itself does not extend far enough in the poleward direction to be utilized to derive an unique latitudinal dependence. However, the variational coefficients for the European stations greatly enhance the possibilities of determining longitudinal and temporal variations of cosmic-ray anisotropies.

## 7. FORMAT OF THE TABLES

The tables have been calculated in three steps with the first group in Appendix A containing the variational coefficients calculated for  $R_{\max}$  values of 500, 188.75, 111.25, 80, 50 and 29 GV, independent of latitude. The format is similar to the IQSY listings with diurnal and semidiurnal amplitudes and phases listed along with the value of  $R_{\max}$ .

Appendix B contains the amplitudes and phases of the station responses to a square wave (lunes of the celestial sphere)  $60^\circ$  wide as a function of the asymptotic longitude of the center of the pulse.

Appendix C lists the amplitudes and phases of the station responses to  $10^\circ$ ,  $30^\circ$  and  $60^\circ$  square waves and isotropic ( $360^\circ$ ) modulations as a function of the upper limiting rigidity. The response to other longitudinal profiles may be computed by taking appropriately weighted sums of the variational coefficients in Appendix A.

The amplitudes listed throughout these tables are normalized to  $A_i = 100$  percent at 1 GV while the phase gives the correction for geomagnetic bending of the trajectories in hours or degrees measured from the geographic longitude of the station.

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## APPENDIX A

### COSMIC-RAY VARIATIONAL COEFFICIENTS

In the following section the cosmic-ray variational coefficients for eleven stations are tabulated together with ten values of  $\beta = +1.6$  to  $\beta = -0.2$ . Tables are given for upper limiting rigidity values of 500, 188.75, 111.25, 80 and 29 GV.



APATITY											
GEOGRAPHIC LATITUDE = 67.55 GEOGRAPHIC LONGITUDE = 33.33											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	2414.27	711.45	209.65	61.78	18.21	5.37	1.58	0.47	0.14	0.04	
5 10	9418.16	2962.83	939.41	301.14	98.03	32.59	11.15	3.96	1.47	0.57	
10 15	2264.57	854.19	322.77	122.19	46.34	17.61	6.71	2.56	0.98	0.37	
15 20	2622.00	902.16	312.82	109.44	38.67	13.82	5.00	1.83	0.68	0.26	
20 25	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11	
25 30	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
30 35	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
35 40	6322.29	2014.75	647.40	209.87	68.66	22.68	7.56	2.54	0.86	0.30	
40 45	2703.19	980.99	368.82	144.70	59.52	25.68	11.58	5.42	2.62	1.29	
45 50	21662.87	7355.18	2541.11	895.32	322.49	119.06	45.17	17.66	7.13	2.98	
50 55	1632.20	707.70	309.21	136.25	60.61	27.24	12.38	5.70	2.66	1.26	
55 60	677.18	323.84	157.41	77.79	39.08	19.94	10.33	5.42	2.88	1.55	
60 65	717.17	367.14	190.94	100.94	54.26	29.65	16.46	9.28	5.31	3.07	
65 70	1707.93	881.58	471.89	260.96	148.39	86.34	51.17	30.78	18.73	11.51	
70 75	1015.43	560.88	316.72	182.38	106.85	63.57	38.34	23.42	14.47	9.04	
75 80	3190.03	1138.09	452.60	204.95	105.37	60.05	36.81	23.70	15.77	10.73	
80 85	8259.45	2979.68	1104.03	423.12	169.36	71.69	32.55	16.04	8.64	5.06	
85 90	560.57	278.07	139.69	71.38	37.33	20.15	11.34	6.73	4.23	2.84	
90 95	622.42	301.28	146.30	71.30	34.88	17.13	8.45	4.19	2.09	1.05	
95 100	579.80	251.99	109.59	47.69	20.77	9.05	3.95	1.72	0.75	0.33	
100 105	2603.55	1010.17	395.65	156.78	63.02	25.78	10.78	4.63	2.06	0.96	
105 110	6942.32	2163.07	675.74	211.78	66.70	21.21	6.91	2.38	0.94	0.47	
110 115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
140 145	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
145 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
150 155	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
155 160	195.47	84.83	36.82	15.99	6.95	3.03	1.33	0.59	0.27	0.13	
160 165	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
165 170	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	194.26	79.89	32.86	13.51	5.56	2.29	0.94	0.39	0.16	0.07	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	651.46	262.03	105.39	42.39	17.05	6.86	2.76	1.11	0.45	0.18	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	1613.11	552.17	217.38	79.80	29.29	10.75	3.95	1.45	0.53	0.20	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	2232.59	739.98	245.26	81.29	26.94	8.93	2.96	0.98	0.33	0.11	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	4709.18	1422.58	430.02	130.07	39.37	11.92	3.61	1.10	0.33	0.10	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	9980.41	3348.65	1140.50	394.75	138.98	49.80	18.16	6.74	2.55	0.98	
355 360	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
FIRST HARMONIC											
AMPLITUDE 63310.1622486.56 8350.42 3280.53 1378.52 624.07 304.68 159.61 88.93 52.20											
PHASE 0.62 0.79 1.00 1.23 1.49 1.75 1.98 2.17 2.33 2.46											
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE 39911.1114333.92 5404.20 2173.73 946.93 449.97 232.16 128.38 74.96 45.66											
PHASE 0.96 1.08 1.24 1.43 1.66 1.89 2.09 2.26 2.40 2.50											
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV											

APATIVITY											
GEOGRAPHIC LATITUDE = 67.55 GEOGRAPHIC LONGITUDE = 33.33											
ASY. LONG.	BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30	
10 15	2264.57	854.19	322.77	122.19	46.34	17.61	6.71	2.56	0.98	0.37	
15 20	389.40	162.18	67.56	28.14	11.73	4.89	2.04	0.85	0.35	0.15	
20 25	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11	
25 30	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
30 35	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
35 40	1613.11	592.17	217.38	79.80	29.29	10.75	3.95	1.45	0.53	0.20	
40 45	470.60	241.01	123.55	63.41	32.57	16.75	8.62	4.44	2.29	1.18	
45 50	7779.32	3030.04	1190.55	472.60	189.87	77.35	32.03	13.51	5.81	2.56	
50 55	1632.20	707.70	309.21	136.25	60.61	27.24	12.38	5.70	2.66	1.26	
55 60	677.18	323.84	157.41	77.79	39.08	19.94	10.33	5.42	2.88	1.55	
60 65	717.17	367.14	190.94	100.94	54.26	29.65	16.46	9.28	5.31	3.07	
65 70	1707.93	881.58	471.89	260.96	140.39	86.34	51.17	30.78	18.73	11.51	
70 75	1015.43	560.88	316.72	182.38	106.85	63.57	38.34	23.42	14.47	9.04	
75 80	775.76	426.64	242.95	143.17	87.16	54.68	35.23	23.24	15.63	10.69	
80 85	3731.95	1528.57	638.40	273.54	121.26	56.20	27.55	14.43	8.12	4.89	
85 90	560.57	278.07	139.69	71.38	37.33	20.15	11.34	6.73	4.23	2.84	
90 95	622.42	301.28	146.30	71.30	34.88	17.13	8.45	4.19	2.09	1.05	
95 100	579.80	251.99	109.59	47.69	20.77	9.05	3.95	1.72	0.75	0.33	
100 105	2603.55	1010.17	395.65	156.78	63.02	25.78	10.78	4.63	2.06	0.96	
105 110	0.54	0.50	0.46	0.42	0.39	0.36	0.33	0.31	0.28	0.26	
110 115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
140 145	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
145 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
150 155	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	
155 160	195.47	84.83	36.82	15.99	6.95	3.03	1.33	0.59	0.27	0.13	
160 165	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
165 170	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	194.26	79.89	32.86	13.51	5.56	2.29	0.94	0.39	0.16	0.07	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	651.46	262.03	105.39	42.39	17.05	6.86	2.76	1.11	0.45	0.18	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	1613.11	592.17	217.38	79.80	29.29	10.75	3.95	1.45	0.53	0.20	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	3038.63	1186.08	465.22	183.39	72.67	28.95	11.59	4.67	1.89	0.77	
355 360	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
FIRST HARMONIC											
AMPLITUDE	24484.04	10527.37	4671.42	2150.53	1031.84	517.69	271.97	149.51	85.80	51.22	
PHASE (IN HOURS)	1.56	1.66	1.77	1.88	2.00	2.12	2.23	2.33	2.43	2.51	
SECOND HARMONIC											
AMPLITUDE	17172.05	7352.01	3279.23	1535.00	757.55	394.40	215.91	123.61	73.55	45.24	
PHASE (IN HOURS)	1.36	1.49	1.63	1.78	1.94	2.09	2.23	2.34	2.44	2.53	
THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV											

APATITY										
GEOGRAPHIC LATITUDE = 67.55 GEOGRAPHIC LONGITUDE = 33.33										
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30
10 15	651.46	262.03	105.39	42.39	17.05	6.86	2.76	1.11	0.45	0.18
15 20	389.40	162.18	67.56	28.14	11.73	4.89	2.04	0.85	0.35	0.15
20 25	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11
25 30	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14
30 35	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
35 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40 45	470.60	241.01	123.55	63.41	32.57	16.75	8.62	4.44	2.29	1.18
45 50	2939.99	1253.54	538.40	233.20	101.99	45.09	20.18	9.16	4.22	1.97
50 55	1632.20	707.70	309.21	136.25	60.61	27.24	12.38	5.70	2.66	1.26
55 60	677.18	323.84	157.41	77.79	39.08	19.94	10.33	5.42	2.88	1.55
60 65	717.17	367.14	190.94	100.94	54.26	29.65	16.46	9.28	5.31	3.07
65 70	1707.93	881.58	471.89	260.96	149.39	86.34	51.17	30.78	18.73	11.51
70 75	1015.43	560.88	316.72	182.38	106.85	63.57	38.34	23.42	14.47	9.04
75 80	775.76	426.64	242.95	143.17	87.16	54.68	35.23	23.24	15.63	10.69
80 85	2118.84	936.40	421.02	193.74	91.96	45.45	23.61	12.98	7.59	4.69
85 90	560.57	278.07	139.69	71.38	37.33	20.15	11.34	6.73	4.23	2.84
90 95	622.42	301.28	146.30	71.30	34.88	17.13	8.45	4.19	2.09	1.05
95 100	579.80	251.99	109.59	47.69	20.77	9.05	3.95	1.72	0.75	0.33
100 105	990.44	418.00	178.27	76.98	33.73	15.03	6.83	3.18	1.52	0.76
105 110	0.54	0.50	0.46	0.42	0.39	0.36	0.33	0.31	0.28	0.26
110 115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120 125	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130 135	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140 145	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14
145 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
150 155	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
155 160	195.47	84.83	36.82	15.99	6.95	3.03	1.33	0.59	0.27	0.13
160 165	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
165 170	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175 180	194.26	79.89	32.86	13.51	5.56	2.29	0.94	0.39	0.16	0.07
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	651.46	262.03	105.39	42.39	17.05	6.86	2.76	1.11	0.45	0.18
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	1425.52	593.91	247.84	103.59	43.37	18.17	7.64	3.22	1.36	0.57
355 360	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
FIRST HARMONIC										
AMPLITUDE	15461.23	7234.16	3470.61	1713.07	872.59	459.75	250.90	141.85	83.02	50.21
PHASE	2.03	2.08	2.13	2.18	2.24	2.30	2.36	2.42	2.49	2.55
(IN HOURS)										
SECOND HARMONIC										
AMPLITUDE	9657.60	4660.65	2322.45	1197.33	639.07	352.97	201.44	118.55	71.78	44.62
PHASE	1.76	1.86	1.97	2.07	2.17	2.26	2.35	2.42	2.49	2.56
(IN HOURS)										
THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV										



APATITY											
GEOGRAPHIC LATITUDE = 67.55 GEOGRAPHIC LONGITUDE = 33.33											
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30	
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08	
20 25	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11	
25 30	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
30 35	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
35 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40 45	470.60	241.01	123.55	63.41	32.57	16.75	8.62	4.44	2.29	1.18	
45 50	1248.55	569.70	261.90	121.40	56.77	26.81	12.79	6.17	3.01	1.48	
50 55	786.48	365.78	170.97	80.35	38.00	18.09	8.68	4.20	2.05	1.01	
55 60	677.18	323.84	157.41	77.79	39.08	19.94	10.33	5.42	2.88	1.55	
60 65	717.17	367.14	190.94	100.94	54.26	29.65	16.46	9.28	5.31	3.07	
65 70	1056.47	619.55	366.50	218.57	131.34	79.48	48.42	29.67	18.29	11.33	
70 75	821.17	480.99	283.86	168.87	101.29	61.28	37.41	23.04	14.31	8.98	
75 80	775.76	426.64	242.95	143.17	87.16	54.68	35.23	23.24	15.63	10.69	
80 85	1273.12	554.48	282.77	137.84	69.35	36.30	19.91	11.49	6.98	4.45	
85 90	560.57	278.07	139.69	71.38	37.33	20.15	11.34	6.73	4.23	2.84	
90 95	622.42	301.28	146.30	71.30	34.88	17.13	8.45	4.19	2.09	1.05	
95 100	579.80	251.99	109.59	47.69	20.77	9.05	3.95	1.72	0.75	0.33	
100 105	144.72	76.08	40.02	21.08	11.12	5.89	3.13	1.68	0.92	0.51	
105 110	0.54	0.50	0.46	0.42	0.39	0.36	0.33	0.31	0.28	0.26	
110 115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120 125	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130 135	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140 145	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
145 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
150 155	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
155 160	195.47	84.83	36.82	15.99	6.95	3.03	1.33	0.59	0.27	0.13	
160 165	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
165 170	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	579.80	251.99	109.59	47.69	20.77	9.05	3.95	1.72	0.75	0.33	
355 360	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
FIRST HARMONIC											
AMPLITUDE	10386.85	5184.93	2643.16	1379.01	737.75	405.33	228.94	132.99	79.44	48.77	
PHASE	2.22	2.25	2.28	2.31	2.35	2.39	2.43	2.47	2.52	2.58	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	6760.78	3521.41	1875.43	1022.20	570.53	326.15	190.94	114.44	70.17	43.99	
PHASE	2.17	2.22	2.27	2.31	2.36	2.40	2.45	2.50	2.54	2.59	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 80.00 GV											

		APATITY									
		GEOGRAPHIC LATITUDE = 67.55 GEOGRAPHIC LONGITUDE = 33.33									
ASY. LONG. / BETA =		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	10	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30
10	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	35	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
35	40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	45	470.60	241.01	123.55	63.41	32.57	16.75	8.62	4.44	2.29	1.18
45	50	473.60	235.42	117.61	59.07	29.83	15.16	7.74	3.98	2.06	1.07
50	55	401.82	196.08	96.08	47.29	23.40	11.65	5.83	2.94	1.50	0.77
55	60	286.58	156.74	85.90	47.19	25.98	14.33	7.93	4.39	2.44	1.36
60	65	527.96	282.25	152.85	83.85	46.59	26.21	14.92	8.59	5.00	2.94
65	70	1056.47	619.55	366.50	218.57	131.34	79.48	48.42	29.67	18.29	11.33
70	75	821.17	480.99	283.86	168.87	101.29	61.28	37.41	23.04	14.31	8.98
75	80	580.61	344.35	208.25	128.53	80.99	52.08	34.14	22.77	15.43	10.61
80	85	497.87	257.68	136.38	74.18	41.66	24.25	14.66	9.20	5.98	4.01
85	90	371.36	193.17	101.60	54.29	29.66	16.71	9.80	6.03	3.92	2.70
90	95	622.42	301.28	146.30	71.30	34.88	17.13	8.45	4.19	2.09	1.05
95	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	105	144.72	76.08	40.02	21.08	11.12	5.89	3.13	1.68	0.92	0.51
105	110	0.54	0.50	0.46	0.42	0.39	0.36	0.33	0.31	0.28	0.26
110	115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115	120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	125	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30
125	130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130	135	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
135	140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
150	155	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
155	160	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
160	165	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345	350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350	355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355	360	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
FIRST HARMONIC											
AMPLITUDE		6515.45	3501.57	1910.79	1060.20	598.90	344.83	202.56	121.49	74.42	46.58
PHASE		2.34	2.35	2.37	2.39	2.42	2.45	2.48	2.51	2.56	2.60
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE		5029.87	2772.75	1551.47	881.97	509.80	299.85	179.56	109.51	68.04	43.07
PHASE		2.38	2.39	2.41	2.43	2.45	2.47	2.50	2.53	2.57	2.61
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS		50.00 GV									

APATITY										
GEOGRAPHIC LATITUDE = 67.55 GEOGRAPHIC LONGITUDE = 33.33										
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40 45	289.12	151.88	79.78	41.91	22.02	11.56	6.08	3.19	1.68	0.88
45 50	107.00	59.83	33.46	18.72	10.47	5.86	3.28	1.83	1.03	0.57
50 55	35.22	20.49	11.92	6.94	4.04	2.35	1.37	0.79	0.46	0.27
55 60	286.58	156.74	85.90	47.19	25.98	14.33	7.93	4.39	2.44	1.36
60 65	342.84	195.79	112.47	64.99	37.78	22.10	13.00	7.69	4.58	2.74
65 70	874.99	530.43	322.72	197.07	120.78	74.30	45.87	28.42	17.67	11.03
70 75	821.17	480.99	283.86	168.87	101.29	61.28	37.41	23.04	14.31	8.98
75 80	580.61	344.35	208.25	128.53	80.99	52.08	34.14	22.77	15.43	10.61
80 85	131.27	82.09	52.23	33.82	22.29	14.95	10.19	7.05	4.95	3.52
85 90	189.89	104.05	57.83	32.79	19.10	11.52	7.25	4.78	3.31	2.39
90 95	70.69	39.23	21.77	12.08	6.70	3.72	2.06	1.15	0.64	0.35
95 100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100 105	144.72	76.08	40.02	21.08	11.12	5.89	3.13	1.68	0.92	0.51
105 110	0.54	0.50	0.46	0.42	0.39	0.36	0.33	0.31	0.28	0.26
110 115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120 125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
150 155	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
155 160	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
160 165	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC										
AMPLITUDE	3775.43	2188.47	1281.14	758.10	453.87	275.17	169.09	105.39	66.68	42.85
PHASE	2.42	2.43	2.44	2.46	2.48	2.50	2.53	2.56	2.59	2.64
(IN HOURS)										
SECOND HARMONIC										
AMPLITUDE	3495.99	2036.21	1197.62	711.90	428.03	260.52	160.64	100.41	63.66	40.96
PHASE	2.42	2.43	2.45	2.46	2.48	2.50	2.53	2.56	2.59	2.63
(IN HOURS)										
THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV										



ATHENS										
GEOGRAPHIC LATITUDE = 37.97 GEOGRAPHIC LONGITUDE = 23.72										
ASY. LONG.	BETA	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	C.0
0	5	919.00	369.63	148.67	59.80	24.05	9.67	3.89	1.56	0.63
5	10	7192.47	2235.59	701.91	223.19	72.08	23.71	7.97	2.74	0.97
10	15	3425.19	1163.52	397.90	137.20	47.78	16.84	6.02	2.18	0.81
15	20	9185.64	2961.93	967.00	320.16	107.67	36.84	12.84	4.57	1.66
20	25	4859.95	1607.93	547.74	192.62	70.00	26.27	10.16	4.03	1.64
25	30	16454.75	5213.83	1658.40	529.80	170.10	54.93	17.86	5.85	1.94
30	35	19860.95	6221.01	1957.12	618.84	196.86	63.07	20.38	6.66	2.20
35	40	12774.71	4630.81	1688.10	619.40	229.02	85.45	32.22	12.30	4.77
40	45	6666.42	2636.50	1046.59	417.04	166.83	67.01	27.03	10.95	4.45
45	50	8929.81	2964.26	1008.15	352.15	126.49	46.72	17.72	6.88	2.73
50	55	4751.45	1766.81	673.03	262.99	105.44	43.33	18.22	7.82	3.41
55	60	3935.38	1553.73	620.48	251.06	103.11	43.05	18.30	7.92	3.50
60	65	2507.15	1088.22	475.56	209.28	92.76	41.41	18.61	8.43	3.84
65	70	8190.52	2713.44	931.42	333.78	125.56	49.68	20.62	8.93	4.01
70	75	6475.27	2388.23	901.55	350.05	140.44	58.43	25.25	11.32	5.26
75	80	1754.29	766.15	337.61	150.19	67.50	30.66	14.08	6.54	3.08
80	85	1645.85	758.59	352.91	165.77	78.62	37.66	18.21	8.89	4.38
85	90	771.20	355.54	204.74	106.90	56.26	29.83	15.92	8.55	4.62
90	95	872.03	439.23	222.19	112.89	57.62	29.54	15.21	7.87	4.09
95	100	610.24	320.40	169.04	89.63	47.77	25.60	13.79	7.47	4.07
100	105	150.95	84.41	47.20	26.40	14.77	8.26	4.62	2.59	1.45
105	110	250.32	142.22	80.84	45.97	26.15	14.89	8.48	4.83	2.75
110	115	402.74	220.95	121.51	66.99	37.03	20.52	11.40	6.35	3.55
115	120	100.91	57.97	33.31	19.14	11.00	6.33	3.64	2.09	1.20
120	125	141.98	84.24	50.05	29.77	17.73	10.57	6.31	3.77	2.26
125	130	99.09	58.48	34.53	20.39	12.04	7.11	4.20	2.48	1.47
130	135	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82
135	140	240.17	139.43	81.09	47.24	27.57	16.12	9.44	5.54	3.26
140	145	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82
145	150	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87
150	155	92.58	54.67	32.34	19.17	11.38	6.77	4.04	2.41	1.44
155	160	90.76	55.18	33.56	20.41	12.42	7.56	4.60	2.80	1.71
160	165	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89
165	170	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87
170	175	49.69	28.91	16.82	9.79	5.69	3.31	1.93	1.12	0.65
175	180	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98
180	185	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	64.35	41.43	26.67	17.17	11.06	7.12	4.59	2.96	1.90
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	162.85	101.14	62.85	39.09	24.33	15.15	9.44	5.89	3.67
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345	350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350	355	9792.62	3050.69	952.60	298.16	93.54	29.42	9.27	2.93	0.93
355	360	2275.58	835.36	306.66	112.57	41.33	15.17	5.57	2.04	0.75
FIRST HARMONIC										
AMPLITUDE		122842.2241951.1714698.63	5294.03	1973.65	767.18	313.52	135.76	62.56	30.64	
PHASE		0.82	0.98	1.18	1.46	1.82	2.27	2.81	3.44	4.11
(IN HOURS)										
SECOND HARMONIC										
AMPLITUDE		94603.7231584.3010710.32	3697.97	1304.17	471.78	175.99	68.09	27.46	11.56	
PHASE		0.73	0.84	0.98	1.16	1.39	1.66	1.99	2.37	2.81
(IN HOURS)										
THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV										

ATHENS											
GEOGRAPHIC LATITUDE = 37.97 GEOGRAPHIC LONGITUDE = 23.72											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	919.00	369.63	148.67	59.80	24.05	9.67	3.89	1.56	0.63	0.25	
5 10	549.33	228.79	95.30	39.70	16.54	6.89	2.87	1.20	0.50	0.21	
10 15	275.72	119.64	51.92	22.53	9.78	4.24	1.84	0.80	0.35	0.15	
15 20	2542.49	955.12	360.39	136.68	52.14	20.02	7.75	3.02	1.19	0.47	
20 25	1454.19	604.30	251.99	105.46	44.32	18.70	7.93	3.38	1.44	0.62	
25 30	275.29	116.08	48.95	20.64	8.70	3.67	1.55	0.65	0.28	0.12	
30 35	275.72	119.64	51.92	22.53	9.78	4.24	1.84	0.80	0.35	0.15	
35 40	9625.24	3586.93	1342.12	504.73	191.01	72.85	28.05	10.92	4.31	1.72	
40 45	6666.42	2636.50	1046.59	417.04	166.83	67.01	27.03	10.95	4.45	1.82	
45 50	2286.67	957.46	401.53	168.66	70.96	29.90	12.62	5.34	2.26	0.96	
50 55	1601.98	722.93	327.04	148.31	67.43	30.74	14.05	6.44	2.96	1.36	
55 60	3935.38	1553.73	620.48	251.06	103.11	43.05	18.30	7.92	3.50	1.58	
60 65	2507.15	1088.22	475.56	209.28	92.76	41.41	18.61	8.43	3.84	1.76	
65 70	1547.37	706.63	324.80	150.30	70.03	32.86	15.52	7.39	3.54	1.71	
70 75	3325.80	1344.35	555.57	235.37	102.43	45.83	21.07	9.94	4.80	2.36	
75 80	1754.29	766.15	337.61	150.19	67.50	30.66	14.08	6.54	3.08	1.46	
80 85	1645.85	758.59	352.91	165.77	78.62	37.66	18.21	8.89	4.38	2.18	
85 90	771.20	395.54	204.74	106.90	56.26	29.83	15.92	8.55	4.62	2.51	
90 95	872.03	439.23	222.19	112.89	57.62	29.54	15.21	7.87	4.09	2.13	
95 100	610.24	320.40	169.04	89.63	47.77	25.60	13.79	7.47	4.07	2.23	
100 105	150.95	84.41	47.20	26.40	14.77	8.26	4.62	2.59	1.45	0.81	
105 110	250.32	142.22	80.84	45.97	26.15	14.89	8.48	4.83	2.75	1.57	
110 115	402.74	220.95	121.51	66.99	37.03	20.52	11.40	6.35	3.55	1.99	
115 120	100.91	57.97	33.31	19.14	11.00	6.33	3.64	2.09	1.20	0.69	
120 125	141.98	84.24	50.05	29.77	17.73	10.57	6.31	3.77	2.26	1.35	
125 130	99.09	58.48	34.53	20.39	12.04	7.11	4.20	2.48	1.47	0.87	
130 135	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82	0.49	
135 140	240.17	139.43	81.09	47.24	27.57	16.12	9.44	5.54	3.26	1.92	
140 145	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82	0.49	
145 150	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87	1.18	
150 155	92.58	54.67	32.34	19.17	11.38	6.77	4.04	2.41	1.44	0.86	
155 160	90.76	55.18	33.56	20.41	12.42	7.56	4.60	2.80	1.71	1.04	
160 165	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55	
165 170	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87	1.18	
170 175	49.69	28.91	16.82	9.79	5.69	3.31	1.93	1.12	0.65	0.38	
175 180	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98	0.63	
180 185	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	64.35	41.43	26.67	17.17	11.06	7.12	4.59	2.96	1.90	1.23	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	162.85	101.14	62.85	39.09	24.33	15.15	9.44	5.89	3.67	2.29	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98	0.63	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	2275.58	835.36	306.66	112.57	41.33	15.17	5.57	2.04	0.75	0.28	
FIRST HARMONIC											
AMPLITUDE 42065.3117097.92 7056.51 2965.41 1273.30 560.95 254.73 119.76 58.48 29.69											
PHASE 1.72 1.90 2.11 2.37 2.69 3.07 3.51 4.00 4.53 5.07											
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE 31419.2312440.67 4968.89 2004.28 817.65 337.93 141.75 60.46 26.25 11.61											
PHASE 1.59 1.70 1.84 1.99 2.18 2.40 2.65 2.93 3.26 3.62											
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV											



ATHENS										
GEOGRAPHIC LATITUDE = 37.97 GEOGRAPHIC LONGITUDE = 23.72										
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5	919.00	369.63	148.67	59.80	24.05	9.67	3.89	1.56	0.63	0.25
5 10	549.33	228.79	95.30	39.70	16.54	6.89	2.87	1.20	0.50	0.21
10 15	275.72	119.64	51.92	22.53	9.78	4.24	1.84	0.80	0.35	0.15
15 20	266.91	119.76	53.73	24.11	10.82	4.85	2.18	0.98	0.44	0.20
20 25	1454.19	604.30	251.99	105.46	44.32	18.70	7.93	3.38	1.44	0.62
25 30	275.29	116.08	48.95	20.64	8.70	3.67	1.55	0.65	0.28	0.12
30 35	275.72	119.64	51.92	22.53	9.78	4.24	1.84	0.80	0.35	0.15
35 40	522.92	245.48	115.48	54.43	25.71	12.17	5.77	2.74	1.30	0.62
40 45	4390.84	1801.14	739.93	304.47	125.51	51.84	21.46	8.90	3.70	1.54
45 50	2286.67	957.46	401.53	168.66	70.96	29.90	12.62	5.34	2.26	0.96
50 55	1601.98	722.93	327.04	148.31	67.43	30.74	14.05	6.44	2.96	1.36
55 60	1659.80	718.37	313.82	138.49	61.78	27.88	12.73	5.88	2.75	1.30
60 65	2507.15	1088.22	475.56	209.28	92.76	41.41	18.61	8.43	3.84	1.76
65 70	1547.37	706.63	324.80	150.30	70.03	32.86	15.52	7.39	3.54	1.71
70 75	1050.22	508.99	248.91	122.80	61.11	30.66	15.50	7.89	4.05	2.09
75 80	1754.29	766.15	337.61	150.19	67.50	30.66	14.08	6.54	3.08	1.46
80 85	1645.85	758.59	352.91	165.77	78.62	37.66	18.21	8.89	4.38	2.18
85 90	771.20	355.54	204.74	106.90	56.26	29.83	15.92	8.55	4.62	2.51
90 95	872.03	439.23	222.19	112.89	57.62	29.54	15.21	7.87	4.09	2.13
95 100	610.24	320.40	169.04	89.63	47.77	25.60	13.79	7.47	4.07	2.23
100 105	150.95	84.41	47.20	26.40	14.77	8.26	4.62	2.59	1.45	0.81
105 110	250.32	142.22	80.84	45.97	26.15	14.89	8.48	4.83	2.75	1.57
110 115	402.74	220.95	121.51	66.99	37.03	20.52	11.40	6.35	3.55	1.99
115 120	100.91	57.97	33.31	19.14	11.00	6.33	3.64	2.09	1.20	0.69
120 125	141.98	84.24	50.05	29.77	17.73	10.57	6.31	3.77	2.26	1.35
125 130	99.09	58.48	34.53	20.39	12.04	7.11	4.20	2.48	1.47	0.87
130 135	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82	0.49
135 140	240.17	139.43	81.09	47.24	27.57	16.12	9.44	5.54	3.26	1.92
140 145	79.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82	0.49
145 150	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87	1.18
150 155	92.58	54.67	32.34	19.17	11.38	6.77	4.04	2.41	1.44	0.86
155 160	90.76	55.18	33.56	20.41	12.42	7.56	4.60	2.80	1.71	1.04
160 165	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
165 170	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87	1.18
170 175	49.69	28.91	16.82	9.79	5.69	3.31	1.93	1.12	0.65	0.38
175 180	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98	0.63
180 185	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	64.35	41.43	26.67	17.17	11.06	7.12	4.59	2.96	1.90	1.23
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	162.85	101.14	62.85	39.09	24.33	15.15	9.44	5.89	3.67	2.29
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98	0.63
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC										
AMPLITUDE	23536.43	10395.67	4647.87	2107.89	972.09	457.13	219.86	108.45	54.98	28.67
PHASE	2.37	2.54	2.76	3.01	3.30	3.64	4.02	4.44	4.89	5.34
(IN HOURS)										
SECOND HARMONIC										
AMPLITUDE	17052.49	7337.48	3177.31	1385.59	608.96	269.92	120.73	54.51	24.85	11.43
PHASE	2.19	2.29	2.42	2.57	2.73	2.92	3.13	3.37	3.64	3.94
(IN HOURS)										
THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV										

ATHENS											
GEOGRAPHIC LATITUDE = 37.97 GEOGRAPHIC LONGITUDE = 23.72											
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5 10	275.27	116.08	48.95	20.64	8.70	3.67	1.55	0.65	0.28	0.12	
10 15	275.72	119.64	51.92	22.53	9.78	4.24	1.84	0.80	0.35	0.15	
15 20	266.91	119.76	53.73	24.11	10.82	4.85	2.18	0.98	0.44	0.20	
20 25	261.15	121.97	56.96	26.60	12.43	5.80	2.71	1.27	0.59	0.28	
25 30	275.29	116.08	48.95	20.64	8.70	3.67	1.55	0.65	0.28	0.12	
30 35	275.72	119.64	51.92	22.53	9.78	4.24	1.84	0.80	0.35	0.15	
35 40	522.92	245.48	115.48	54.43	25.71	12.17	5.77	2.74	1.30	0.62	
40 45	811.72	354.14	154.87	67.89	29.83	13.14	5.81	2.57	1.14	0.51	
45 50	1093.63	475.12	206.51	89.80	39.07	17.01	7.41	3.23	1.41	0.61	
50 55	1601.98	722.93	327.04	148.31	67.43	30.74	14.05	6.44	2.96	1.36	
55 60	740.80	348.73	165.15	78.69	37.73	18.20	8.84	4.32	2.12	1.05	
60 65	1040.07	453.18	234.19	111.36	53.03	25.29	12.07	5.77	2.76	1.32	
65 70	1547.37	706.63	324.80	150.30	70.03	32.86	15.52	7.39	3.54	1.71	
70 75	1050.22	508.99	248.91	122.80	61.11	30.66	15.50	7.89	4.05	2.09	
75 80	835.29	356.52	188.93	90.40	43.45	20.98	10.19	4.98	2.45	1.21	
80 85	1371.81	645.89	306.56	146.70	70.79	34.44	16.89	8.35	4.16	2.09	
85 90	771.20	355.54	204.74	106.90	56.26	29.83	15.92	8.55	4.62	2.51	
90 95	872.03	439.23	222.19	112.89	57.62	29.54	15.21	7.87	4.09	2.13	
95 100	610.24	320.40	169.04	89.63	47.77	25.60	13.79	7.47	4.07	2.23	
100 105	150.95	84.41	47.20	26.40	14.77	8.26	4.62	2.59	1.45	0.81	
105 110	250.32	142.22	80.84	45.97	26.15	14.89	8.48	4.83	2.75	1.57	
110 115	402.74	220.95	121.51	66.99	37.03	20.52	11.40	6.35	3.55	1.99	
115 120	100.91	57.97	33.31	19.14	11.00	6.33	3.64	2.09	1.20	0.69	
120 125	141.98	84.24	50.05	29.77	17.73	10.57	6.31	3.77	2.26	1.35	
125 130	99.09	58.48	34.53	20.39	12.04	7.11	4.20	2.48	1.47	0.87	
130 135	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82	0.49	
135 140	240.17	139.43	81.09	47.24	27.57	16.12	9.44	5.54	3.26	1.92	
140 145	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82	0.49	
145 150	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87	1.18	
150 155	92.58	54.67	32.34	19.17	11.38	6.77	4.04	2.41	1.44	0.86	
155 160	90.76	55.18	33.56	20.41	12.42	7.56	4.60	2.80	1.71	1.04	
160 165	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55	
165 170	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87	1.18	
170 175	49.69	28.91	16.82	9.79	5.69	3.31	1.93	1.12	0.65	0.38	
175 180	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98	0.63	
180 185	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	64.35	41.43	26.67	17.17	11.06	7.12	4.59	2.96	1.90	1.23	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	162.85	101.14	62.85	39.09	24.33	15.15	9.44	5.89	3.67	2.29	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98	0.63	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FIRST HARMONIC											
AMPLITUDE	14029.54	6620.76	3158.55	1525.42	746.93	371.43	187.89	96.82	50.89	27.29	
PHASE	3.05	3.24	3.45	3.69	3.96	4.26	4.59	4.94	5.31	5.69	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	9931.79	4563.97	2108.83	979.95	458.01	215.29	101.75	48.33	23.06	11.05	
PHASE	2.79	2.90	3.03	3.16	3.31	3.48	3.66	3.86	4.09	4.34	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 80.00 GV											

# ATHENS

		GEOGRAPHIC LATITUDE = 37.97					GEOGRAPHIC LONGITUDE = 23.72				
ASY. LONG./BETA=		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	25	261.15	121.97	56.96	26.60	12.43	5.80	2.71	1.27	0.59	0.28
25	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	40	256.01	125.73	61.75	30.33	14.89	7.31	3.59	1.76	0.87	0.43
40	45	261.15	121.97	56.96	26.60	12.43	5.80	2.71	1.27	0.59	0.28
45	50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	55	517.15	247.70	118.71	56.93	27.32	13.12	6.30	3.03	1.46	0.70
55	60	465.08	229.09	113.24	56.17	27.95	13.96	7.00	3.52	1.77	0.90
60	65	773.16	373.43	180.46	87.26	42.21	20.43	9.89	4.79	2.32	1.13
65	70	721.09	354.82	174.99	86.49	42.85	21.27	10.59	5.28	2.64	1.32
70	75	507.59	269.59	143.26	76.17	40.52	21.56	11.48	6.12	3.26	1.74
75	80	568.37	276.76	135.20	66.29	32.63	16.13	8.01	4.00	2.01	1.01
80	85	820.81	410.17	205.70	103.53	52.31	26.52	13.50	6.90	3.54	1.82
85	90	504.29	275.78	151.01	82.79	45.45	24.98	13.75	7.58	4.18	2.31
90	95	872.03	439.23	222.19	112.89	57.62	29.54	15.21	7.87	4.09	2.13
95	100	610.24	320.40	169.04	89.63	47.77	25.60	13.79	7.47	4.07	2.23
100	105	150.95	84.41	47.20	26.40	14.77	8.26	4.62	2.59	1.45	0.81
105	110	250.32	142.22	80.84	45.97	26.15	14.89	8.48	4.83	2.75	1.57
110	115	402.74	220.95	121.51	66.99	37.03	20.52	11.40	6.35	3.55	1.99
115	120	100.91	57.97	33.31	19.14	11.00	6.33	3.64	2.09	1.20	0.69
120	125	141.98	84.24	50.05	29.77	17.73	10.57	6.31	3.77	2.26	1.35
125	130	99.09	58.48	34.53	20.39	12.04	7.11	4.20	2.48	1.47	0.87
130	135	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82	0.49
135	140	240.17	139.43	81.09	47.24	27.57	16.12	9.44	5.54	3.26	1.92
140	145	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82	0.49
145	150	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87	1.18
150	155	92.58	54.67	32.34	19.17	11.38	6.77	4.04	2.41	1.44	0.86
155	160	90.76	55.18	33.56	20.41	12.42	7.56	4.60	2.80	1.71	1.04
160	165	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
165	170	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87	1.18
170	175	49.69	28.91	16.82	9.79	5.69	3.31	1.93	1.12	0.65	0.38
175	180	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98	0.63
180	185	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	64.35	41.43	26.67	17.17	11.06	7.12	4.59	2.96	1.90	1.23
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	162.85	101.14	62.85	39.09	24.33	15.15	9.44	5.89	3.67	2.29
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98	0.63
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345	350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350	355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355	360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

## FIRST HARMONIC

AMPLITUDE	7698.02	3927.75	2019.24	1046.74	547.59	289.33	154.53	83.50	45.67	25.30
PHASE	4.05	4.22	4.41	4.61	4.83	5.07	5.33	5.60	5.89	6.18

(IN HOURS)

## SECOND HARMONIC

AMPLITUDE	5365.55	2660.48	1322.49	658.92	328.98	164.53	82.39	41.29	20.70	10.38
PHASE	3.66	3.75	3.85	3.96	4.08	4.21	4.36	4.51	4.69	4.90

(IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 50.00 GV



ATHENS										
GEOGRAPHIC LATITUDE = 37.97 GEOGRAPHIC LONGITUDE = 23.72										
ASY. LONG. BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40 45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50 55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55 60	203.93	107.13	56.27	29.56	15.53	8.16	4.29	2.25	1.18	0.62
60 65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65 70	203.93	107.13	56.27	29.56	15.53	8.16	4.29	2.25	1.18	0.62
70 75	507.59	269.59	143.26	76.17	40.52	21.56	11.48	6.12	3.26	1.74
75 80	51.22	29.06	16.49	9.36	5.31	3.01	1.71	0.97	0.55	0.31
80 85	303.66	162.47	86.99	46.60	24.99	13.41	7.20	3.87	2.08	1.12
85 90	504.29	275.78	151.01	82.79	45.45	24.98	13.75	7.58	4.18	2.31
90 95	354.88	191.53	103.48	55.96	30.30	16.42	8.91	4.84	2.63	1.43
95 100	354.24	194.67	107.29	59.31	32.88	18.28	10.20	5.70	3.20	1.80
100 105	150.95	84.41	47.20	26.40	14.77	8.26	4.62	2.59	1.45	0.81
105 110	250.32	142.22	80.84	45.97	26.15	14.89	8.48	4.83	2.75	1.57
110 115	402.74	220.95	121.51	66.99	37.03	20.52	11.00	6.35	3.55	1.99
115 120	100.91	57.97	33.31	19.14	11.00	6.33	3.54	2.09	1.20	0.69
120 125	141.98	84.24	50.05	29.77	17.73	10.57	5.31	3.77	2.26	1.35
125 130	99.09	58.48	34.53	20.39	12.04	7.11	4.20	2.48	1.47	0.87
130 135	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82	0.49
135 140	240.17	139.43	81.09	47.24	27.57	16.12	9.44	5.54	3.26	1.92
140 145	49.40	29.58	17.71	10.60	6.35	3.80	2.28	1.36	0.82	0.49
145 150	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87	1.18
150 155	92.58	54.67	32.34	19.17	11.38	6.77	4.04	2.41	1.44	0.86
155 160	90.76	55.18	33.56	20.41	12.42	7.56	4.60	2.80	1.71	1.04
160 165	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
165 170	77.41	48.58	30.50	19.15	12.03	7.55	4.75	2.98	1.87	1.18
170 175	49.69	28.91	16.82	9.79	5.69	3.31	1.93	1.12	0.65	0.38
175 180	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98	0.63
180 185	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	64.35	41.43	26.67	17.17	11.06	7.12	4.59	2.96	1.90	1.23
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	162.85	101.14	62.85	39.09	24.33	15.15	9.44	5.89	3.67	2.29
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	36.05	22.98	14.65	9.34	5.95	3.79	2.42	1.54	0.98	0.63
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC										
AMPLITUDE	3787.97	2095.85	1164.21	649.48	364.03	205.07	116.15	66.17	37.92	21.88
PHASE	5.47	5.60	5.74	5.89	6.05	6.22	6.40	6.58	6.78	6.98
(IN HOURS)										
SECOND HARMONIC										
AMPLITUDE	2497.47	1337.57	716.24	383.40	205.13	109.68	58.61	31.29	16.70	8.92
PHASE	4.87	4.94	5.01	5.10	5.19	5.30	5.41	5.54	5.69	5.86
(IN HOURS)										
THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV										



# DOURBES

ASY. LONG. / BETA =		GEOGRAPHIC LATITUDE = 50.10				GEOGRAPHIC LONGITUDE = 4.60					
		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	5283.73	1642.31	515.64	163.96	52.95	17.42	5.86	2.02	0.71	0.26
5	10	1584.46	2421.35	783.30	257.86	86.84	30.10	10.80	4.03	1.57	0.64
10	15	9703.59	3095.92	993.44	320.99	104.59	34.43	11.48	3.89	1.34	0.47
15	20	14072.44	4785.38	1642.76	569.37	199.28	70.45	25.17	9.09	3.32	1.23
20	25	5306.61	2110.98	842.74	337.63	135.74	54.76	22.17	9.00	3.67	1.50
25	30	1843.95	807.01	355.36	157.45	70.20	31.49	14.22	6.46	2.95	1.35
30	35	5769.05	1892.00	643.68	229.48	86.44	34.54	14.60	6.49	3.00	1.43
35	40	2895.80	1034.09	377.34	141.23	54.39	21.59	8.83	3.72	1.61	0.71
40	45	3147.93	1284.87	535.35	228.28	99.81	44.79	20.63	9.74	4.71	2.32
45	50	985.19	446.48	205.10	95.66	45.36	21.89	10.76	5.38	2.74	1.42
50	55	1025.02	514.78	261.13	133.82	69.29	36.24	19.14	10.20	5.49	2.98
55	60	8748.43	2983.33	1062.78	400.78	161.80	70.29	32.76	16.21	8.41	4.52
60	65	3986.88	1710.39	762.20	354.71	172.87	88.16	46.87	25.82	14.64	8.49
65	70	1677.52	846.59	435.71	228.81	122.60	66.99	37.30	21.13	12.17	7.11
70	75	668.75	341.54	178.17	95.12	52.03	29.17	15.74	9.82	5.88	3.58
75	80	257.92	139.03	76.54	43.12	24.88	14.69	8.87	5.47	3.43	2.18
80	85	26.23	17.77	12.04	8.15	5.53	3.75	2.54	1.72	1.17	0.79
85	90	47.74	32.78	22.52	15.47	10.64	7.32	5.04	3.47	2.39	1.65
90	95	45.75	31.69	21.95	15.21	10.54	7.30	5.06	3.51	2.43	1.69
95	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	105	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44
105	110	40.30	28.37	19.98	14.07	9.92	6.99	4.93	3.47	2.45	1.73
110	115	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44
115	120	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
120	125	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44
125	130	12.63	9.35	6.92	5.12	3.79	2.81	2.08	1.54	1.14	0.84
130	135	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
135	140	22.02	16.03	11.67	8.50	6.19	4.51	3.29	2.40	1.75	1.28
140	145	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
145	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	160	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
160	165	9.89	7.46	5.63	4.25	3.21	2.43	1.83	1.39	1.05	0.80
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
195	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	4880.18	1474.24	445.63	134.79	40.80	12.35	3.74	1.14	0.34	0.10
330	335	6487.29	2117.81	696.71	230.97	77.15	25.96	8.80	3.00	1.03	0.36
335	340	3254.67	1091.29	371.63	128.70	45.36	16.27	5.94	2.20	0.83	0.32
340	345	404.78	173.17	74.10	31.71	13.58	5.81	2.49	1.07	0.46	0.20
345	350	7389.93	2329.07	739.27	236.74	76.66	25.17	8.41	2.87	1.00	0.36
350	355	3985.35	1380.53	479.45	166.94	58.28	20.40	7.16	2.52	0.89	0.31
355	360	866.96	361.14	151.06	63.47	26.80	11.37	4.85	2.08	0.90	0.39

## FIRST HARMONIC

AMPLITUDE 89003.1030967.4411098.56 4160.21 1645.76 694.47 314.83 153.41 79.84 43.91  
 PHASE 0.73 0.90 1.12 1.40 1.76 2.17 2.63 3.10 3.55 3.96

(IN HOURS)

## SECOND HARMONIC

AMPLITUDE 80775.7920606.88 7181.71 2605.56 1003.36 419.43 192.87 96.89 52.07 29.31  
 PHASE 0.68 0.85 1.07 1.38 1.76 2.21 2.68 3.13 3.52 3.86

(IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV

DURBES											
GEOGRAPHIC LATITUDE = 50.10 GEOGRAPHIC LONGITUDE = 4.60											
ASY. LONG./BETA= +1.6 +1.4 +1.2 +1.0 +0.8 +0.5 +0.4 +0.2 0.0 -0.2											
0 5	403.55	168.07	70.01	29.17	12.15	5.06	2.11	0.88	0.37	0.15	
5 10	390.61	180.25	83.50	38.83	18.12	8.49	3.99	1.88	0.89	0.42	
10 15	196.08	87.98	39.47	17.71	7.95	3.57	1.60	0.72	0.32	0.14	
15 20	6878.59	2544.29	942.96	350.34	130.56	48.84	18.36	6.94	2.64	1.01	
20 25	5306.61	2110.98	842.74	337.63	135.74	54.76	22.17	9.00	3.67	1.50	
25 30	1843.95	807.01	355.36	157.45	70.20	31.49	14.22	6.46	2.95	1.35	
30 35	888.86	417.76	198.05	94.69	45.65	22.18	10.86	5.36	2.66	1.33	
35 40	582.14	267.24	123.17	56.99	26.46	12.33	5.77	2.71	1.27	0.60	
40 45	3147.93	1284.87	535.35	228.28	99.81	44.79	20.63	9.74	4.71	2.32	
45 50	985.19	446.48	205.10	95.66	45.36	21.89	10.76	5.38	2.74	1.42	
50 55	1025.02	514.78	261.13	133.82	69.29	36.24	19.14	10.20	5.49	2.98	
55 60	1554.58	742.24	362.98	181.75	93.08	48.68	25.94	14.06	7.73	4.31	
60 65	3986.88	1710.39	762.20	354.71	172.87	88.16	46.87	25.82	14.64	8.49	
65 70	1677.52	846.59	435.71	228.81	122.60	66.99	37.30	21.13	12.17	7.11	
70 75	668.75	341.54	178.17	95.12	52.03	29.17	16.74	9.82	5.88	3.58	
75 80	257.92	139.03	76.54	43.12	24.88	14.69	8.87	5.47	3.43	2.18	
80 85	26.23	17.77	12.04	8.15	5.53	3.75	2.54	1.72	1.17	0.79	
85 90	47.74	32.78	22.52	15.47	10.64	7.32	5.04	3.47	2.39	1.65	
90 95	45.75	31.69	21.95	15.21	10.54	7.30	5.06	3.51	2.43	1.69	
95 100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
100 105	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44	
105 110	40.38	28.37	19.98	14.07	9.92	6.99	4.93	3.47	2.45	1.73	
110 115	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44	
115 120	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	
120 125	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44	
125 130	12.63	9.35	6.92	5.12	3.79	2.81	2.08	1.54	1.14	0.84	
130 135	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	
135 140	22.02	16.03	11.67	8.50	6.19	4.51	3.29	2.40	1.75	1.28	
140 145	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	
145 150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
150 155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
155 160	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	
160 165	9.89	7.46	5.63	4.25	3.21	2.43	1.83	1.39	1.05	0.80	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	1671.69	613.67	225.28	82.70	30.36	11.14	4.09	1.50	0.55	0.20	
335 340	876.43	354.33	143.27	57.93	23.43	9.47	3.83	1.55	0.63	0.25	
340 345	404.78	173.17	74.10	31.71	13.58	5.81	2.49	1.07	0.46	0.20	
345 350	196.08	87.98	39.47	17.71	7.95	3.57	1.60	0.72	0.32	0.14	
350 355	1671.69	613.67	225.28	82.70	30.36	11.14	4.09	1.50	0.55	0.20	
355 360	866.96	361.14	151.06	63.47	26.80	11.37	4.85	2.08	0.90	0.39	

FIRST HARMONIC

AMPLITUDE	31891.53	3309.61	5696.21	2512.82	1148.60	546.52	271.52	140.95	76.31	42.93	
PHASE	1.69	1.80	1.99	2.21	2.47	2.77	3.09	3.42	3.76	4.08	

(IN HOURS)

SECOND HARMONIC

AMPLITUDE	22548.89	9305.23	3939.62	1722.85	783.75	372.99	186.14	97.23	52.88	29.76	
PHASE	1.69	1.84	2.03	2.26	2.52	2.80	3.09	3.38	3.67	3.94	

(IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV

DOORBES											
GEOGRAPHIC LATITUDE = 50.10 GEOGRAPHIC LONGITUDE = 4.60											
ASY. LONG.	BETA	+1.5	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	403.55	168.07	70.01	29.17	12.15	5.06	2.11	0.88	0.37	0.15
5	10	390.61	180.25	83.50	38.83	18.12	8.49	3.99	1.88	0.89	0.42
10	15	196.08	87.98	39.47	17.71	7.95	3.57	1.60	0.72	0.32	0.14
15	20	191.85	89.60	41.85	19.54	9.13	4.26	1.99	0.93	0.43	0.20
20	25	3634.92	1457.31	617.47	254.93	105.38	43.61	18.07	7.50	3.12	1.30
25	30	1843.95	807.01	355.36	157.45	70.20	31.49	14.22	6.46	2.95	1.35
30	35	888.86	417.76	198.05	94.69	45.65	22.18	10.86	5.36	2.66	1.33
35	40	582.14	267.24	123.17	56.99	26.46	12.33	5.77	2.71	1.27	0.60
40	45	1476.24	671.19	310.07	145.58	69.45	33.65	16.54	8.24	4.15	2.12
45	50	985.19	446.48	205.10	95.66	45.36	21.89	10.76	5.38	2.74	1.42
50	55	1025.02	514.78	261.13	133.82	69.29	36.24	19.14	10.20	5.49	2.98
55	60	1554.58	742.24	362.98	181.75	93.08	48.68	25.94	14.06	7.73	4.31
60	65	2315.19	1096.72	536.92	272.01	142.51	77.02	42.78	24.32	14.09	8.29
65	70	1677.52	846.59	435.71	228.81	122.60	66.99	37.30	21.13	12.17	7.11
70	75	668.75	341.54	178.17	95.12	52.03	29.17	16.74	9.82	5.88	3.58
75	80	257.92	139.03	76.54	43.12	24.88	14.69	8.87	5.47	3.43	2.18
80	85	26.23	17.77	12.04	8.15	5.53	3.75	2.54	1.72	1.17	0.79
85	90	47.74	32.78	22.52	15.47	10.64	7.32	5.04	3.47	2.39	1.65
90	95	45.75	31.69	21.95	15.21	10.54	7.30	5.06	3.51	2.43	1.69
95	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	105	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44
105	110	40.30	28.37	19.98	14.07	9.92	6.99	4.93	3.47	2.45	1.73
110	115	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44
115	120	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
120	125	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44
125	130	12.63	9.35	6.92	5.12	3.79	2.81	2.08	1.54	1.14	0.84
130	135	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
135	140	22.02	16.03	11.67	8.50	6.19	4.51	3.29	2.40	1.75	1.28
140	145	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
145	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	160	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
160	165	9.89	7.46	5.63	4.25	3.21	2.43	1.83	1.39	1.05	0.80
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
195	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	876.43	354.33	143.27	57.93	23.43	9.47	3.83	1.55	0.63	0.25
340	345	404.78	173.17	74.10	31.71	13.58	5.81	2.49	1.07	0.46	0.20
345	350	196.08	87.98	39.47	17.71	7.95	3.57	1.60	0.72	0.32	0.14
350	355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355	360	866.96	361.14	151.06	63.47	26.80	11.37	4.85	2.08	0.90	0.39
FIRST HARMONIC											
AMPLITUDE											
PHASE											
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE											
PHASE											
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV											



## DOORBES

GEOGRAPHIC LATITUDE = 50.10 GEOGRAPHIC LONGITUDE = 4.60  
 ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2

0	5	202.23	85.28	35.96	15.16	6.39	2.70	1.14	0.48	0.20	0.09
5	10	390.61	180.25	83.50	38.83	18.12	8.49	3.99	1.88	0.89	0.42
10	15	196.08	87.98	39.47	17.71	7.95	3.57	1.60	0.72	0.32	0.14
15	20	191.85	89.60	41.85	19.54	9.13	4.26	1.99	0.93	0.43	0.20
20	25	1005.63	434.31	187.67	81.14	35.10	15.19	6.58	2.85	1.24	0.54
25	30	1168.83	535.47	246.14	113.52	52.53	24.39	11.36	5.31	2.49	1.17
30	35	687.55	334.97	164.00	80.69	39.89	19.81	9.89	4.95	2.49	1.26
35	40	582.14	267.24	123.17	56.99	26.46	12.33	5.77	2.71	1.27	0.60
40	45	801.12	399.65	200.86	101.65	51.79	26.54	13.68	7.09	3.69	1.93
45	50	783.88	363.69	171.05	81.65	39.60	19.52	9.78	4.98	2.58	1.35
50	55	1025.02	514.78	261.13	133.82	69.29	36.24	19.14	10.20	5.49	2.98
55	60	879.47	470.70	253.76	137.82	75.41	41.57	23.09	12.91	7.27	4.12
60	65	1237.44	659.60	359.61	200.08	113.32	65.17	37.97	22.37	13.30	7.97
65	70	1677.52	846.59	435.71	228.81	122.60	66.99	37.30	21.13	12.17	7.11
70	75	668.75	341.54	178.17	95.12	52.03	29.17	16.74	9.82	5.88	3.58
75	80	257.92	139.03	76.54	43.12	24.88	14.69	8.87	5.47	3.43	2.18
80	85	26.23	17.77	12.04	8.15	5.53	3.75	2.54	1.72	1.17	0.79
85	90	47.74	32.78	22.52	15.47	10.64	7.32	5.04	3.47	2.39	1.65
90	95	45.75	31.69	21.95	15.21	10.54	7.30	5.06	3.51	2.43	1.69
95	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	105	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44
105	110	40.30	28.37	19.98	14.07	9.92	6.99	4.93	3.47	2.45	1.73
110	115	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44
115	120	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
120	125	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44
125	130	12.63	9.35	6.92	5.12	3.79	2.81	2.08	1.54	1.14	0.84
130	135	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
135	140	22.02	16.03	11.67	8.50	6.19	4.51	3.29	2.40	1.75	1.28
140	145	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
145	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	160	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42
160	165	9.89	7.46	5.63	4.25	3.21	2.43	1.83	1.39	1.05	0.80
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
195	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	404.78	173.17	74.10	31.71	13.58	5.81	2.49	1.07	0.46	0.20
345	350	196.09	87.98	39.47	17.71	7.95	3.57	1.60	0.72	0.32	0.14
350	355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355	360	191.85	89.60	41.85	19.54	9.13	4.26	1.99	0.93	0.43	0.20

## FIRST HARMONIC

AMPLITUDE 11615.91 5686.69 2834.75 1441.55 749.07 398.24 216.80 120.87 68.99 40.27  
 PHASE 2.63 2.76 2.90 3.06 3.23 3.43 3.64 3.86 4.09 4.32

(IN HOURS)

## SECOND HARMONIC

AMPLITUDE 8801.22 4323.24 2161.08 1100.85 572.05 303.43 164.31 90.81 51.19 29.41  
 PHASE 2.71 2.82 2.95 3.09 3.24 3.39 3.56 3.74 3.92 4.11

(IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 80.00 GV



DOURBES											
GEOGRAPHIC LATITUDE = 50.10 GEOGRAPHIC LONGITUDE = 4.60											
ASY. LONG. / BETA	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	188.07	92.36	45.36	22.28	10.94	5.37	2.64	1.30	0.64	0.31	
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
15 20	191.85	89.60	41.85	19.54	9.13	4.26	1.99	0.93	0.43	0.20	
20 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
25 30	567.98	274.33	132.57	64.10	31.01	15.01	7.27	3.52	1.71	0.83	
30 35	491.47	246.99	124.53	62.98	31.94	16.25	8.29	4.24	2.17	1.12	
35 40	379.91	181.96	87.21	41.82	20.07	9.64	4.63	2.23	1.07	0.52	
40 45	598.58	311.76	162.72	85.10	44.60	23.43	12.33	6.50	3.44	1.82	
45 50	183.02	102.55	57.48	32.23	18.08	10.15	5.70	3.20	1.80	1.01	
50 55	828.94	426.80	221.66	116.11	61.34	32.67	17.54	9.49	5.17	2.83	
55 60	879.47	470.70	253.76	137.82	75.41	41.57	23.09	12.91	7.27	4.12	
60 65	832.67	486.43	285.51	168.37	99.75	59.36	35.48	21.30	12.84	7.77	
65 70	1076.67	585.45	322.14	179.39	101.08	57.62	33.21	19.35	11.39	6.77	
70 75	472.67	253.57	138.70	77.41	44.09	25.60	15.14	9.11	5.56	3.43	
75 80	257.92	139.03	76.54	43.12	24.88	14.69	8.87	5.47	3.43	2.18	
80 85	26.23	17.77	12.04	8.15	5.53	3.75	2.54	1.72	1.17	0.79	
85 90	47.74	32.78	22.52	15.47	10.64	7.32	5.04	3.47	2.39	1.65	
90 95	45.75	31.69	21.95	15.21	10.54	7.30	5.06	3.51	2.43	1.69	
95 100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
100 105	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44	
105 110	40.30	28.37	19.98	14.07	9.92	6.99	4.93	3.47	2.45	1.73	
110 115	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44	
115 120	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	
120 125	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44	
125 130	12.63	9.35	6.92	5.12	3.79	2.81	2.08	1.54	1.14	0.84	
130 135	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	
135 140	22.02	16.03	11.67	8.50	6.19	4.51	3.29	2.40	1.75	1.28	
140 145	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	
145 150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
150 155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
155 160	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	
160 165	9.89	7.46	5.63	4.25	3.21	2.43	1.83	1.39	1.05	0.80	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	191.85	89.60	41.85	19.54	9.13	4.26	1.99	0.93	0.43	0.20	
FIRST HARMONIC											
AMPLITUDE	6885.95	3647.68	1957.09	1064.53	587.52	329.24	187.43	108.42	63.74	38.07	
PHASE (IN HOURS)	3.17	3.26	3.37	3.49	3.62	3.77	3.93	4.11	4.29	4.49	
SECOND HARMONIC											
AMPLITUDE	5698.06	3015.87	1613.93	873.73	478.73	265.56	149.19	84.89	48.94	28.59	
PHASE (IN HOURS)	3.18	3.26	3.35	3.45	3.55	3.67	3.79	3.93	4.08	4.23	
THE UPPER LIMIT FOR THIS CALCULATION IS 50.00 GV											

DOORBES											
GEOGRAPHIC LATITUDE = 50.10 GEOGRAPHIC LONGITUDE = 4.60											
ASY. LONG. BETA	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30 35	299.62	157.39	82.68	43.43	22.82	11.98	6.30	3.31	1.74	0.91	0.49
35 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40 45	410.51	219.40	117.36	62.83	33.66	18.05	9.69	5.21	2.80	1.51	0.79
45 50	183.02	102.55	57.48	32.23	18.08	10.15	5.70	3.20	1.80	1.01	0.54
50 55	445.24	247.60	137.97	77.02	43.09	24.15	13.56	7.63	4.30	2.43	1.33
55 60	503.34	285.97	163.04	93.27	53.53	30.83	17.81	10.32	6.00	3.50	1.94
60 65	832.67	486.43	285.51	168.37	99.75	59.36	35.48	21.30	12.84	7.77	4.25
65 70	696.76	403.48	234.94	137.56	81.01	47.98	28.58	17.12	10.32	6.25	3.43
70 75	280.83	163.97	96.86	57.87	34.96	21.34	13.15	8.18	5.12	3.23	1.77
75 80	69.85	46.66	31.18	20.84	13.94	9.32	6.24	4.17	2.79	1.87	1.04
80 85	26.23	17.77	12.04	8.15	5.53	3.75	2.54	1.72	1.17	0.79	0.44
85 90	47.74	32.78	22.52	15.47	10.64	7.32	5.04	3.47	2.39	1.65	0.90
90 95	45.75	31.69	21.95	15.21	10.54	7.30	5.06	3.51	2.43	1.69	0.92
95 100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100 105	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44	0.25
105 110	40.30	28.37	19.98	14.07	9.92	6.99	4.93	3.47	2.45	1.73	0.96
110 115	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44	0.25
115 120	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	0.25
120 125	9.39	6.68	4.75	3.38	2.40	1.71	1.21	0.86	0.61	0.44	0.25
125 130	12.63	9.35	6.92	5.12	3.79	2.81	2.08	1.54	1.14	0.84	0.48
130 135	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	0.25
135 140	22.02	16.03	11.67	8.50	6.19	4.51	3.29	2.40	1.75	1.26	0.71
140 145	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	0.25
145 150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150 155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155 160	6.31	4.67	3.46	2.56	1.90	1.40	1.04	0.77	0.57	0.42	0.25
160 165	9.89	7.46	5.63	4.25	3.21	2.43	1.83	1.39	1.05	0.80	0.48
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	0.25
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	0.25
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	0.25
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	0.25
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38	0.25
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

FIRST HARMONIC  
 AMPLITUDE 3793.41 2174.34 1255.63 730.87 429.01 254.06 151.84 91.62 55.83 34.36  
 PHASE 3.70 3.77 3.85 3.94 4.04 4.15 4.28 4.41 4.56 4.72  
 (IN HOURS)

SECOND HARMONIC  
 AMPLITUDE 3416.41 1941.47 1109.49 637.77 368.87 214.73 125.84 74.28 44.18 26.49  
 PHASE 3.64 3.69 3.75 3.82 3.90 3.98 4.07 4.18 4.29 4.42  
 (IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV

JUNGFRAUJUCH											
GEOGRAPHIC LATITUDE = 46.55 GEOGRAPHIC LONGITUDE = 7.98											
ASY. LONG. / BETA = +1.5 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0	5	3119.53	1107.52	398.36	145.40	53.94	20.36	7.83	3.07	1.22	0.50
5	10	5136.99	1603.83	508.11	164.64	55.32	19.73	7.73	3.44	1.79	1.06
10	15	9431.78	3008.48	964.59	311.12	101.06	33.10	10.95	3.66	1.24	0.43
15	20	17669.75	5753.10	1893.12	630.72	213.21	73.32	25.73	9.24	3.41	1.29
20	25	4861.12	1850.86	707.38	271.49	104.69	40.58	15.82	6.21	2.45	0.98
25	30	3952.76	1566.91	624.10	249.76	100.42	40.57	16.46	6.71	2.75	1.13
30	35	1864.99	801.29	345.94	150.10	65.47	28.71	12.66	5.61	2.50	1.12
35	40	7909.75	2610.54	884.27	309.58	112.79	42.99	17.18	7.19	3.13	1.41
40	45	2396.66	959.69	391.09	162.49	68.91	29.85	13.21	5.96	2.74	1.28
45	50	1634.52	732.87	333.21	153.70	71.94	34.16	16.44	8.02	3.96	1.98
50	55	1574.67	682.30	298.29	131.75	58.87	26.65	12.24	5.71	2.71	1.31
55	60	7767.89	2564.98	874.99	312.15	117.94	47.64	20.63	9.53	4.64	2.35
60	65	2537.27	1050.28	448.38	198.16	90.86	43.22	21.29	10.82	5.64	3.01
65	70	2113.78	940.06	424.43	194.92	91.21	43.54	21.72	10.56	5.36	2.78
70	75	1155.02	582.77	297.60	153.91	80.65	42.82	23.04	12.55	6.92	3.86
75	80	838.29	456.91	250.73	138.84	77.09	43.20	24.38	13.86	7.93	4.57
80	85	242.30	146.52	86.91	54.13	33.07	20.26	12.45	7.68	4.74	2.94
85	90	213.37	131.94	81.83	50.89	31.74	19.85	12.44	7.82	4.93	3.11
90	95	181.97	116.52	74.75	48.04	30.93	19.95	12.89	8.34	5.41	3.51
95	100	53.38	34.76	22.64	14.75	9.62	6.27	4.09	2.67	1.74	1.14
100	105	63.04	42.15	28.19	18.86	12.62	8.45	5.66	3.79	2.54	1.70
105	110	32.00	21.39	14.29	9.55	6.38	4.27	2.85	1.91	1.27	0.85
110	115	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
115	120	60.28	41.49	28.58	19.69	13.57	9.36	6.46	4.46	3.08	2.13
120	125	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
125	130	29.50	20.28	13.95	9.59	6.60	4.54	3.12	2.15	1.48	1.02
130	135	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
135	140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	155	29.53	20.66	14.45	10.11	7.08	4.96	3.47	2.43	1.70	1.19
155	160	29.57	21.03	14.95	10.63	7.56	5.38	3.82	2.72	1.93	1.37
160	165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	170	26.82	19.42	14.07	10.20	7.39	5.36	3.89	2.82	2.05	1.49
170	175	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	4718.88	1425.81	431.08	130.41	39.48	11.96	3.62	1.10	0.33	0.10
335	340	3918.88	1358.18	471.93	164.41	57.43	20.11	7.06	2.49	0.88	0.31
340	345	875.43	353.95	143.12	57.88	23.41	9.47	3.83	1.55	0.63	0.25
345	350	2602.23	792.52	244.37	76.58	24.49	8.03	2.71	0.94	0.34	0.13
350	355	9494.75	2979.33	939.43	297.98	95.21	39.70	19.01	3.31	1.11	0.38
355	360	1863.04	700.24	264.38	100.34	38.31	14.72	5.70	2.23	0.88	0.35
FIRST HARMONIC											
AMPLITUDE 88145.8830529.6910905.08 4050.97 1581.38 656.28 292.46 140.55 72.55 39.81											
PHASE 0.77 0.96 1.19 1.50 1.90 2.39 2.95 3.55 4.14 4.69											
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE 63434.6621332.66 7320.22 2583.15 950.70 373.16 160.08 75.78 38.98 21.21											
PHASE 0.71 0.86 1.07 1.34 1.70 2.16 2.68 3.21 3.70 4.11											
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV											



JUNGFRAUJCH											
GEOGRAPHIC LATITUDE = 46.55 GEOGRAPHIC LONGITUDE = 7.98											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0	5	863.61	359.80	150.53	63.26	26.71	11.34	4.84	2.07	0.89	0.39
5	10	418.11	178.02	77.03	34.22	15.84	7.77	4.10	2.35	1.45	0.96
10	15	201.07	87.25	37.86	16.43	7.13	3.09	1.34	0.58	0.25	0.11
15	20	3720.16	1406.06	535.31	205.60	79.80	31.36	12.50	5.06	2.08	0.87
20	25	4861.12	1850.86	707.38	271.49	104.69	40.58	15.82	6.21	2.45	0.98
25	30	3952.76	1566.91	624.10	249.76	100.42	40.57	16.46	6.71	2.75	1.13
30	35	1864.99	801.29	345.94	150.10	65.47	28.71	12.66	5.61	2.50	1.12
35	40	934.96	437.02	205.37	97.03	46.09	22.01	10.56	5.10	2.47	1.20
40	45	2396.66	959.69	391.09	162.49	68.91	29.85	13.21	5.96	2.74	1.28
45	50	1634.52	732.87	333.21	153.70	71.94	34.16	16.44	8.02	3.96	1.98
50	55	1574.67	682.30	298.29	131.75	58.87	26.65	12.24	5.71	2.71	1.31
55	60	793.10	391.46	196.09	99.60	51.23	26.66	14.02	7.44	3.98	2.14
60	65	2537.27	1050.28	448.38	198.16	90.86	43.22	21.29	10.82	5.64	3.01
65	70	2113.78	940.06	424.43	194.92	91.21	43.54	21.22	10.56	5.36	2.78
70	75	1155.02	582.77	297.60	153.91	80.65	42.82	23.04	12.55	6.92	3.66
75	80	838.29	456.91	250.73	138.54	77.09	43.20	24.38	13.86	7.93	4.57
80	85	242.30	146.52	88.91	54.13	33.07	20.26	12.45	7.68	4.74	2.94
85	90	213.37	131.94	81.83	50.89	31.74	19.85	12.44	7.82	4.93	3.11
90	95	181.97	116.52	74.75	48.04	30.93	19.95	12.89	8.34	5.41	3.51
95	100	53.38	34.76	22.64	14.75	9.62	6.27	4.09	2.67	1.74	1.14
100	105	63.04	42.15	28.19	18.86	12.62	8.45	5.66	3.79	2.54	1.70
105	110	32.00	21.39	14.29	9.55	6.38	4.27	2.85	1.91	1.27	0.85
110	115	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
115	120	60.28	41.49	28.58	19.69	13.57	9.36	6.46	4.46	3.08	2.13
120	125	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
125	130	29.50	20.28	13.95	9.59	6.60	4.54	3.12	2.15	1.48	1.02
130	135	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
135	140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	155	29.53	20.66	14.45	10.11	7.08	4.96	3.47	2.43	1.70	1.19
155	160	29.57	21.03	14.95	10.63	7.56	5.38	3.82	2.72	1.93	1.37
160	165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	170	26.82	19.42	14.07	10.20	7.39	5.36	3.89	2.82	2.05	1.49
170	175	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	1662.96	610.47	224.10	82.27	30.20	11.09	4.07	1.49	0.55	0.20
340	345	875.43	353.95	143.12	57.88	23.41	9.47	3.83	1.55	0.63	0.25
345	350	202.24	85.28	35.96	15.16	6.39	2.70	1.14	0.48	0.20	0.09
350	355	201.07	87.25	37.86	16.43	7.13	3.09	1.34	0.58	0.25	0.11
355	360	1863.04	700.24	264.38	100.34	38.31	14.72	5.70	2.23	0.88	0.35
FIRST HARMONIC											
AMPLITUDE 31676.4313136.01 5573.66 2431.84 1097.21 514.84 252.43 129.65 69.71 39.11											
PHASE 1.68 1.86 2.08 2.35 2.68 3.06 3.48 3.93 4.39 4.84											
(IN HOURS											
SECOND HARMONIC											
AMPLITUDE 22515.90 9127.58 3771.42 1597.83 699.43 318.94 152.45 76.50 40.12 21.81											
PHASE 1.66 1.81 2.01 2.25 2.53 2.85 3.20 3.55 3.90 4.22											
(IN HOURS											
THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV											



## JUNGFRAUJOCH

		GEOGRAPHIC LATITUDE = 46.55				GEOGRAPHIC LONGITUDE = 7.98					
ASY. LONG. BETA =		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	863.61	359.80	150.53	63.26	26.71	11.34	4.84	2.07	0.89	0.39
5	10	418.11	178.02	77.03	34.22	15.84	7.77	4.10	2.35	1.45	0.96
10	15	201.07	87.25	37.86	16.43	7.13	3.09	1.34	0.58	0.25	0.11
15	20	394.24	185.12	87.11	41.07	19.40	9.19	4.36	2.07	0.99	0.47
20	25	1535.20	629.93	259.18	106.96	44.29	18.41	7.68	3.22	1.35	0.57
25	30	2289.80	956.44	399.99	167.49	70.22	29.48	12.39	5.22	2.20	0.93
30	35	1864.99	801.29	345.94	150.10	65.47	28.71	12.66	5.61	2.50	1.12
35	40	934.96	437.02	205.37	97.03	46.09	22.01	10.56	5.10	2.47	1.20
40	45	733.70	349.22	166.99	80.27	38.71	18.77	9.14	4.47	2.19	1.08
45	50	1634.52	732.87	333.21	153.70	71.94	34.16	16.44	8.07	3.96	1.98
50	55	1574.67	682.30	298.29	131.75	58.87	26.65	12.24	5.71	2.71	1.31
55	60	793.10	391.46	196.09	99.60	51.23	26.66	14.02	7.44	3.98	2.14
60	65	874.31	439.81	224.28	115.90	60.66	32.13	17.22	9.32	5.10	2.81
65	70	2113.78	940.06	424.43	194.92	91.21	43.54	21.22	10.56	5.36	2.78
70	75	1155.02	582.77	297.60	153.91	80.65	42.82	23.04	12.55	6.92	3.86
75	80	838.29	456.91	250.73	138.54	77.09	43.20	24.38	13.86	7.93	4.57
80	85	242.30	146.52	88.91	54.13	33.07	20.26	12.45	7.68	4.74	2.94
85	90	213.37	131.94	81.83	50.89	31.74	19.85	12.44	7.82	4.93	3.11
90	95	181.97	116.52	74.75	48.04	30.93	19.95	12.89	8.34	5.41	3.51
95	100	53.38	34.76	22.64	14.75	9.62	6.27	4.09	2.67	1.74	1.14
100	105	63.04	42.15	28.19	18.86	12.62	8.45	5.66	3.79	2.54	1.70
105	110	32.00	21.39	14.29	9.55	6.38	4.27	2.85	1.91	1.27	0.85
110	115	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
115	120	60.28	41.49	28.58	19.69	13.57	9.36	6.46	4.46	3.08	2.13
120	125	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
125	130	29.50	20.28	13.95	9.59	6.60	4.54	3.12	2.15	1.48	1.02
130	135	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
135	140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	155	29.53	20.66	14.45	10.11	7.08	4.96	3.47	2.43	1.70	1.19
155	160	29.57	21.03	14.95	10.63	7.56	5.38	3.82	2.72	1.93	1.37
160	165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	170	26.82	19.42	14.07	10.20	7.39	5.36	3.89	2.82	2.05	1.49
170	175	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	875.43	353.95	143.12	57.88	23.41	9.47	3.83	1.55	0.63	0.25
345	350	202.24	85.28	35.96	15.16	6.39	2.70	1.14	0.48	0.20	0.09
350	355	201.07	87.25	37.86	16.43	7.13	3.09	1.34	0.58	0.25	0.11
355	360	200.08	89.77	40.28	18.07	8.11	3.64	1.63	0.73	0.33	0.15

## FIRST HARMONIC

AMPLITUDE	18365.04	8320.02	3842.63	1815.45	880.58	440.01	227.14	121.32	67.05	38.28
PHASE	2.29	2.45	2.65	2.89	3.17	3.49	3.84	4.22	4.60	4.99

(IN HOURS)

## SECOND HARMONIC

AMPLITUDE	13152.85	5877.22	2671.31	1239.48	589.36	288.17	145.21	75.42	40.31	22.08
PHASE	2.29	2.44	2.61	2.80	3.03	3.27	3.53	3.80	4.07	4.33

(IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV

## JUNGFRAUJCH

GEOGRAPHIC LATITUDE = 46.55 GEOGRAPHIC LONGITUDE = 7.98

ASY. LONG. / BETA =		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	192.02	89.68	41.89	19.56	9.14	4.27	1.99	0.93	0.43	0.20
5	10	214.27	94.19	42.56	20.05	10.01	5.37	3.12	1.94	1.29	0.89
10	15	201.07	87.25	37.86	16.43	7.13	3.09	1.34	0.58	0.25	0.11
15	20	394.24	185.12	87.11	41.07	19.40	9.19	4.36	2.07	0.99	0.47
20	25	192.02	89.68	41.89	19.56	9.14	4.27	1.99	0.93	0.43	0.20
25	30	1006.69	434.83	187.92	81.26	35.15	15.22	6.59	2.86	1.24	0.54
30	35	989.56	447.33	202.81	92.23	42.06	19.24	8.83	4.06	1.88	0.87
35	40	934.96	437.02	205.37	97.03	46.09	22.01	10.56	5.10	2.47	1.20
40	45	733.70	349.22	166.99	80.22	38.71	18.77	9.14	4.47	2.19	1.08
45	50	759.09	378.92	190.09	95.82	48.53	24.69	12.61	6.47	3.33	1.72
50	55	903.08	412.18	189.64	88.05	41.30	19.58	9.40	4.57	2.25	1.12
55	60	589.26	307.63	161.61	85.42	45.40	24.26	13.03	7.03	3.81	2.07
60	65	874.31	439.81	224.28	115.90	60.66	32.13	17.22	9.32	5.10	2.81
65	70	1238.35	586.11	281.31	137.04	67.80	34.07	17.39	9.01	4.74	2.52
70	75	1155.02	582.77	297.60	153.91	80.65	42.82	23.04	12.55	6.92	3.86
75	80	838.29	456.91	250.73	138.54	77.09	43.20	24.38	13.86	7.93	4.57
80	85	242.30	146.52	88.91	54.13	33.07	20.26	12.45	7.68	4.74	2.94
85	90	213.37	131.94	81.83	50.89	31.74	19.85	12.44	7.82	4.93	3.11
90	95	181.97	116.52	74.75	48.04	30.93	19.95	12.89	8.34	5.41	3.51
95	100	53.38	34.76	22.64	14.75	9.62	6.27	4.09	2.67	1.74	1.14
100	105	63.04	42.15	28.19	18.86	12.62	8.45	5.66	3.79	2.54	1.70
105	110	32.00	21.39	14.29	9.55	6.38	4.27	2.85	1.91	1.27	0.85
110	115	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
115	120	60.28	41.49	28.58	19.69	11.57	9.36	6.46	4.46	3.08	2.13
120	125	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
125	130	29.50	20.28	13.95	9.59	6.60	4.54	3.12	2.15	1.48	1.02
130	135	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
135	140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	155	29.53	20.66	14.45	10.11	7.08	4.96	3.47	2.43	1.70	1.19
155	160	29.57	21.03	14.95	10.63	7.56	5.38	3.82	2.72	1.93	1.37
160	165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	170	26.82	19.42	14.07	10.20	7.39	5.36	3.89	2.82	2.05	1.49
170	175	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345	350	202.24	85.28	35.96	15.16	6.39	2.70	1.14	0.48	0.20	0.09
350	355	201.07	87.25	37.86	16.43	7.13	3.09	1.34	0.58	0.25	0.11
355	360	200.08	89.77	40.28	18.07	8.11	3.64	1.63	0.73	0.33	0.15

## FIRST HARMONIC

AMPLITUDE	11450.04	5562.75	2748.98	1384.76	712.54	375.22	202.51	112.12	63.67	37.07
PHASE	2.81	2.98	3.16	3.38	3.63	3.90	4.19	4.50	4.83	5.16

## (IN HOURS)

## SECOND HARMONIC

AMPLITUDE	8475.50	4076.34	1990.05	987.89	499.44	257.44	135.36	72.58	39.63	22.00
PHASE	2.80	2.93	3.08	3.25	3.43	3.62	3.83	4.04	4.25	4.47

## (IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 80.00 GV

		JUNGFRAUJCH									
		GEOGRAPHIC LATITUDE = 46.55 GEOGRAPHIC LONGITUDE = 7.98									
ASY. LONG. / BETA =		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	192.02	89.68	41.89	19.56	9.14	4.27	1.99	0.93	0.43	0.20
5	10	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
10	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	20	194.16	95.36	46.83	23.00	11.30	5.55	2.72	1.34	0.66	0.32
20	25	192.02	89.68	41.89	19.56	9.14	4.27	1.99	0.93	0.43	0.20
25	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	35	386.18	185.04	88.72	42.56	20.43	9.81	4.72	2.27	1.09	0.53
35	40	532.64	261.97	129.13	63.79	31.58	15.67	7.79	3.89	1.94	0.97
40	45	532.64	261.97	129.13	63.79	31.58	15.67	7.79	3.89	1.94	0.97
45	50	559.01	289.15	149.81	77.75	40.42	21.05	10.98	5.74	3.00	1.57
50	55	299.70	149.88	75.55	38.39	19.66	10.16	5.29	2.77	1.47	0.78
55	60	589.26	307.63	161.61	85.42	45.40	24.26	13.03	7.03	3.81	2.07
60	65	672.07	354.53	188.32	100.73	54.26	29.44	16.08	8.84	4.89	2.72
65	70	433.90	236.56	129.35	70.95	39.04	21.55	11.94	6.63	3.70	2.07
70	75	954.94	493.00	257.32	135.84	72.54	39.18	21.40	11.82	6.59	3.71
75	80	838.29	456.91	250.73	138.54	77.07	43.20	24.38	13.86	7.93	4.57
80	85	242.30	146.52	88.91	54.13	33.07	20.26	12.45	7.68	4.74	2.94
85	90	213.37	131.94	81.83	50.89	31.74	19.85	12.44	7.82	4.93	3.11
90	95	181.97	116.52	74.75	48.04	30.93	19.95	12.89	8.34	5.41	3.51
95	100	53.38	34.76	22.64	14.75	9.62	6.27	4.09	2.67	1.74	1.14
100	105	63.04	42.15	28.19	18.86	12.62	8.45	5.66	3.79	2.54	1.70
105	110	32.00	21.39	14.29	9.55	6.38	4.27	2.85	1.91	1.27	0.85
110	115	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
115	120	60.28	41.49	28.58	19.69	13.57	9.36	6.46	4.46	3.08	2.13
120	125	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
125	130	29.50	20.28	13.95	9.59	6.60	4.54	3.12	2.15	1.48	1.02
130	135	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
135	140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	155	29.53	20.66	14.45	10.11	7.08	4.96	3.47	2.43	1.70	1.19
155	160	29.57	21.03	14.95	10.63	7.56	5.38	3.82	2.72	1.93	1.37
160	165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	170	26.82	19.42	14.07	10.20	7.39	5.35	3.89	2.82	2.05	1.49
170	175	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345	350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350	355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355	360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC											
AMPLITUDE		6699.77	3526.43	1879.24	1015.07	556.36	309.74	175.30	100.93	59.12	35.24
PHASE		3.49	3.63	3.79	3.96	4.16	4.37	4.61	4.86	5.12	5.39
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE		5277.93	2747.94	1444.52	767.13	411.75	223.43	122.57	67.97	38.08	21.53
PHASE		3.41	3.52	3.63	3.75	3.88	4.02	4.17	4.33	4.49	4.66
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 50.00 GV											



## JUNGFRAUJCH

GEOGRAPHIC LATITUDE = 46.55 GEOGRAPHIC LONGITUDE = 7.98

ASY. LONG.	BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	10	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
10	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	40	146.46	76.94	40.42	21.23	11.15	5.86	3.08	1.62	0.85	0.45
40	45	146.46	76.94	40.42	21.23	11.15	5.86	3.08	1.62	0.85	0.45
45	50	364.85	193.79	102.98	54.75	29.13	15.50	8.26	4.40	2.35	1.25
50	55	107.68	60.20	33.66	18.82	10.53	5.89	3.29	1.84	1.03	0.58
55	60	397.24	217.95	119.73	65.85	36.27	20.00	11.04	6.10	3.38	1.87
60	65	283.75	163.82	94.66	54.73	31.67	18.34	10.63	6.17	3.58	2.08
65	70	433.90	236.56	129.35	70.95	39.04	21.55	11.74	6.63	3.70	2.07
70	75	376.74	218.28	126.72	73.72	42.97	25.10	14.69	8.62	5.07	2.99
75	80	644.13	361.55	203.90	115.54	65.80	37.66	21.66	12.52	7.27	4.24
80	85	242.30	146.52	88.91	54.13	33.07	20.26	12.45	7.68	4.74	2.94
85	90	213.37	131.94	81.83	50.89	31.74	19.85	12.44	7.82	4.93	3.11
90	95	181.97	116.52	74.75	48.04	30.93	19.95	12.89	8.34	5.41	3.51
95	100	53.39	34.76	22.64	14.75	9.62	6.27	4.09	2.67	1.74	1.14
100	105	63.04	42.15	28.19	18.86	12.62	8.45	5.66	3.79	2.54	1.70
105	110	32.00	21.39	14.29	9.55	6.38	4.27	2.85	1.91	1.27	0.85
110	115	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
115	120	60.28	41.49	28.58	19.69	13.57	9.35	6.46	4.46	3.08	2.13
120	125	14.75	10.14	6.98	4.80	3.30	2.27	1.56	1.07	0.74	0.51
125	130	29.50	20.28	13.95	9.59	6.60	4.54	3.12	2.15	1.46	1.02
130	135	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
135	140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	155	29.53	20.66	14.45	10.11	7.08	4.96	3.47	2.43	1.70	1.19
155	160	29.57	21.03	14.95	10.63	7.56	5.38	3.82	2.72	1.93	1.37
160	165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	170	26.82	19.42	14.07	10.20	7.39	5.36	3.89	2.82	2.05	1.49
170	175	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	14.79	10.52	7.48	5.32	3.78	2.69	1.91	1.36	0.97	0.69
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345	350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350	355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355	360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

## FIRST HARMONIC

AMPLITUDE	3604.12	2060.07	1186.20	688.46	402.98	238.03	141.95	85.50	52.04	32.01
PHASE	4.28	4.39	4.51	4.65	4.80	4.96	5.14	5.32	5.52	5.73

(IN HOURS)

## SECOND HARMONIC

AMPLITUDE	3014.17	1644.94	957.35	543.21	309.65	177.33	102.01	58.93	34.18	19.90
PHASE	4.09	4.16	4.24	4.32	4.41	4.50	4.61	4.72	4.83	4.96

(IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV



		KIEL									
		GEOGRAPHIC LATITUDE = 54.33					GEOGRAPHIC LONGITUDE = 10.13				
ASY. LONG.	BETA	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	3293.75	1064.27	351.50	118.90	41.24	14.66	5.33	1.98	0.75	0.29
5	10	2713.31	887.33	294.89	99.91	34.61	12.29	4.48	1.68	0.64	0.25
10	15	5070.24	1642.89	542.84	183.96	64.38	23.45	8.96	3.63	1.57	0.74
15	20	9332.33	2903.46	904.92	282.54	88.38	27.69	8.69	2.73	0.86	0.27
20	25	15975.67	5413.17	1849.42	637.25	221.51	77.71	27.53	9.85	3.57	1.31
25	30	3731.65	1547.77	643.30	268.02	111.99	46.97	19.81	8.42	3.63	1.60
30	35	2717.95	1111.40	462.73	196.34	84.93	37.45	16.81	7.68	3.56	1.67
35	40	1572.54	683.69	299.87	132.77	59.38	26.83	12.26	5.66	2.64	1.25
40	45	7652.03	2492.64	832.24	287.47	103.83	39.61	16.07	6.94	3.17	1.52
45	50	2299.10	932.29	388.07	166.46	73.79	33.84	16.04	7.85	3.95	2.03
50	55	1705.68	772.23	357.22	169.15	82.07	40.81	20.77	10.81	5.73	3.09
55	60	1422.26	743.10	396.72	216.32	120.33	68.16	39.24	22.92	13.54	8.09
60	65	1274.25	712.32	402.18	229.33	132.05	76.75	45.02	26.64	15.89	9.56
65	70	9358.26	3171.81	1115.29	412.69	163.24	69.97	32.56	16.41	8.84	5.01
70	75	2418.52	1033.54	448.01	198.00	89.81	42.13	20.60	10.57	5.71	3.24
75	80	388.88	189.40	95.45	49.91	27.11	15.29	8.93	5.38	3.34	2.12
80	85	998.15	461.28	216.19	103.23	50.52	25.50	13.37	7.31	4.18	2.50
85	90	18.31	13.02	9.26	6.59	4.68	3.33	2.37	1.68	1.20	0.85
90	95	42.44	30.26	21.60	15.42	11.02	7.88	5.64	4.04	2.90	2.08
95	100	24.63	18.23	13.49	9.94	7.39	5.47	4.05	3.00	2.22	1.64
100	105	21.47	15.63	11.38	8.29	6.04	4.40	3.21	2.34	1.71	1.25
105	110	9.30	7.00	5.28	3.98	3.00	2.27	1.71	1.29	0.98	0.74
110	115	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
115	120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	125	6.29	4.89	3.81	2.96	2.31	1.80	1.40	1.09	0.85	0.66
125	130	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
130	135	9.43	7.34	5.71	4.45	3.46	2.69	2.10	1.63	1.27	0.99
135	140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	150	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
150	155	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
155	160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160	165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	1.46	1.21	1.01	0.84	0.70	0.58	0.49	0.40	0.34	0.28
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	4757.95	1437.32	434.47	131.41	39.77	12.05	3.65	1.11	0.34	0.10
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	9269.37	2932.61	930.08	295.68	94.22	30.09	9.63	3.09	0.99	0.32
335	340	2288.02	863.04	326.12	123.46	46.82	17.79	6.78	2.59	0.99	0.38
340	345	393.44	163.86	68.26	28.44	11.85	4.94	2.06	0.86	0.36	0.15
345	350	389.37	172.07	76.17	33.82	15.10	6.81	3.12	1.47	0.73	0.39
350	355	7013.66	2184.96	682.27	213.55	67.00	21.07	6.64	2.10	0.66	0.21
355	360	1816.86	685.66	260.43	99.68	38.50	15.02	5.93	2.37	0.96	0.40
FIRST HARMONIC											
AMPLITUDE		83949.38	29303.34	10604.78	4020.68	1615.81	695.64	322.81	161.32	86.18	48.70
PHASE		0.65	0.82	1.04	1.32	1.65	2.03	2.44	2.83	3.20	3.52
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE		51080.44	17654.47	6334.77	2399.32	978.66	436.49	212.97	112.06	62.40	36.21
PHASE		0.68	0.87	1.12	1.44	1.82	2.22	2.62	2.97	3.26	3.52
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV											

KIEL											
GEOGRAPHIC LATITUDE = 54.33 GEOGRAPHIC LONGITUDE = 10.13											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	854.48	345.46	139.68	56.48	22.84	9.24	3.74	1.51	0.61	0.25	
5 10	394.64	168.83	72.24	30.92	13.24	5.67	2.43	1.04	0.45	0.19	
10 15	375.25	176.43	83.21	39.41	18.76	9.01	4.38	2.17	1.10	0.59	
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20 25	6706.30	2480.56	919.34	341.57	127.29	47.62	17.90	6.76	2.57	0.99	
25 30	3731.65	1547.77	643.30	268.02	111.99	46.97	19.81	8.42	3.63	1.60	
30 35	2717.96	1111.40	462.73	196.34	84.93	37.45	16.81	7.68	3.56	1.67	
35 40	1572.54	683.69	299.87	132.77	59.38	26.83	12.26	5.66	2.64	1.25	
40 45	638.37	307.68	149.97	73.92	36.83	18.54	9.43	4.84	2.50	1.31	
45 50	2299.10	932.29	388.07	166.46	73.79	33.84	16.04	7.85	3.95	2.03	
50 55	1705.68	772.23	357.22	169.15	82.07	40.81	20.77	10.81	5.73	3.09	
55 60	1422.26	743.10	396.72	216.32	120.33	68.16	39.24	22.92	13.54	8.09	
60 65	1274.25	712.32	402.18	229.33	132.05	76.75	45.02	26.64	15.89	9.56	
65 70	2344.60	986.85	433.01	199.14	96.24	48.83	25.92	14.31	8.17	4.80	
70 75	2418.52	1033.54	448.01	198.00	89.81	42.13	20.60	10.57	5.71	3.24	
75 80	388.88	189.40	95.45	49.91	27.11	15.29	8.93	5.38	3.34	2.12	
80 85	998.15	461.28	216.19	103.23	50.52	25.50	13.37	7.31	4.18	2.50	
85 90	18.31	13.02	9.26	6.59	4.68	3.33	2.37	1.68	1.20	0.85	
90 95	42.44	30.26	21.60	15.42	11.02	7.88	5.64	4.04	2.90	2.08	
95 100	24.63	18.23	13.49	9.99	7.39	5.47	4.05	3.00	2.22	1.64	
100 105	21.47	15.63	11.38	8.29	6.04	4.40	3.21	2.34	1.71	1.25	
105 110	9.30	7.00	5.28	3.98	3.00	2.27	1.71	1.29	0.98	0.74	
110 115	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	6.29	4.89	3.81	2.96	2.31	1.80	1.40	1.09	0.85	0.66	
125 130	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
130 135	9.43	7.34	5.71	4.45	3.46	2.69	2.10	1.63	1.27	0.99	
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
150 155	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	1.46	1.21	1.01	0.84	0.70	0.58	0.49	0.40	0.34	0.28	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	2288.02	863.04	326.12	123.46	46.82	17.79	6.78	2.59	0.99	0.38	
340 345	393.44	163.86	68.26	28.44	11.85	4.94	2.06	0.86	0.36	0.15	
345 350	389.37	172.07	76.17	33.82	15.10	6.81	3.12	1.47	0.73	0.39	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	1816.86	685.66	260.43	99.68	38.50	15.02	5.93	2.37	0.96	0.40	
FIRST HARMONIC											
AMPLITUDE	31023.26	13007.00	5603.73	2494.61	1153.90	557.23	281.76	149.25	82.66	47.68	
PHASE	1.63	1.76	1.92	2.11	2.33	2.57	2.84	3.10	3.37	3.63	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	21591.68	9033.63	3898.29	1747.16	818.33	402.09	207.32	111.82	62.76	36.44	
PHASE	1.63	1.83	2.01	2.21	2.43	2.67	2.91	3.14	3.36	3.57	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV											

		KIEL									
		GEOGRAPHIC LATITUDE = 54.33					GEOGRAPHIC LONGITUDE = 10.13				
ASY. LONG. / BETA =		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	854.48	345.46	139.68	56.48	22.84	9.24	3.74	1.51	0.61	0.25
5	10	394.64	168.83	72.24	30.92	13.24	5.67	2.43	1.04	0.45	0.19
10	15	375.25	176.43	83.21	39.41	18.76	9.01	4.38	2.17	1.10	0.59
15	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	25	187.04	87.36	40.80	19.05	8.90	4.16	1.94	0.91	0.42	0.20
25	30	3731.65	1547.77	643.30	268.02	111.99	46.97	19.81	8.42	3.63	1.60
30	35	1088.14	513.09	243.10	115.72	55.34	26.58	12.82	6.21	3.02	1.48
35	40	1572.54	683.69	299.87	132.77	59.38	26.83	12.26	5.66	2.64	1.25
40	45	638.37	307.68	149.97	73.92	36.83	18.54	9.43	4.84	2.50	1.31
45	50	669.28	333.99	168.44	85.83	44.19	22.97	12.06	6.38	3.41	1.84
50	55	1705.68	772.23	357.22	169.15	82.07	40.81	20.77	10.81	5.73	3.09
55	60	1422.26	743.10	396.72	216.32	120.33	68.16	39.24	22.92	13.54	8.09
60	65	1274.25	712.32	402.18	229.33	132.05	76.75	45.02	26.64	15.89	9.56
65	70	714.79	388.54	213.38	118.52	66.64	37.97	21.93	12.85	7.64	4.60
70	75	2418.52	1033.54	448.01	198.00	89.81	42.13	20.60	10.57	5.71	3.24
75	80	388.88	189.40	95.45	49.91	27.11	15.29	8.93	5.38	3.34	2.12
80	85	998.15	461.28	216.19	103.23	50.52	25.50	13.37	7.31	4.18	2.50
85	90	18.31	13.02	9.26	6.59	4.68	3.33	2.37	1.68	1.20	0.85
90	95	42.44	30.26	21.60	15.42	11.02	7.88	5.64	4.04	2.90	2.08
95	100	24.63	18.23	13.49	9.99	7.39	5.47	4.05	3.00	2.22	1.64
100	105	21.47	15.63	11.38	8.29	6.04	4.40	3.21	2.34	1.71	1.25
105	110	9.30	7.00	5.28	3.98	3.00	2.27	1.71	1.29	0.98	0.74
110	115	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
115	120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	125	6.29	4.89	3.81	2.96	2.31	1.80	1.40	1.09	0.85	0.66
125	130	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
130	135	9.43	7.34	5.71	4.45	3.46	2.69	2.10	1.63	1.27	0.99
135	140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	150	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
150	155	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
155	160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160	165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	1.46	1.21	1.01	0.84	0.70	0.58	0.49	0.40	0.34	0.28
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	658.21	264.74	106.48	42.83	17.23	8.93	2.79	1.12	0.45	0.18
340	345	393.46	163.86	68.26	28.44	11.85	4.94	2.06	0.86	0.36	0.15
345	350	389.37	172.07	76.17	33.82	15.10	6.81	3.12	1.47	0.73	0.39
350	355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355	360	187.04	87.36	40.80	19.05	8.90	4.16	1.94	0.91	0.42	0.20
FIRST HARMONIC											
AMPLITUDE		18012.55	8272.89	3886.54	1874.26	930.93	477.55	253.46	139.27	79.16	46.46
PHASE		2.16	2.26	2.38	2.53	2.69	2.88	3.07	3.28	3.50	3.71
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE		12729.97	5924.54	2825.16	1384.53	698.99	364.05	195.67	108.43	61.85	36.23
PHASE		2.28	2.38	2.51	2.64	2.79	2.95	3.12	3.29	3.46	3.64
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV											



KIEL											
GEOGRAPHIC LATITUDE = 54.33 GEOGRAPHIC LONGITUDE = 10.13											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	394.64	168.83	72.24	30.92	13.24	5.67	2.43	1.04	0.45	0.19	
10 15	375.25	176.43	83.21	39.41	18.76	9.01	4.38	2.17	1.10	0.59	
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20 25	187.04	87.36	40.80	19.05	8.90	4.16	1.94	0.91	0.42	0.20	
25 30	1168.21	511.39	224.27	98.58	43.47	19.26	8.60	3.89	1.80	0.86	
30 35	1088.14	513.09	243.10	115.72	55.34	26.58	12.82	6.21	3.02	1.48	
35 40	718.06	338.24	160.20	76.29	36.54	17.59	8.52	4.15	2.03	1.00	
40 45	638.37	307.68	149.97	73.92	36.83	18.54	9.43	4.84	2.50	1.31	
45 50	669.28	333.99	168.44	85.83	44.19	22.97	12.06	6.38	3.41	1.84	
50 55	851.20	426.77	217.54	112.67	59.23	31.57	17.04	9.29	5.12	2.85	
55 60	1422.26	743.10	396.72	216.32	120.33	68.16	39.24	22.92	13.54	8.09	
60 65	1274.25	712.32	402.18	229.33	132.05	76.75	45.02	26.64	15.89	9.56	
65 70	714.79	388.54	213.38	118.52	66.64	37.97	21.93	12.85	7.64	4.60	
70 75	905.83	423.34	201.85	98.69	49.74	25.96	14.08	7.93	4.64	2.81	
75 80	192.61	108.69	62.26	36.26	21.49	12.98	7.98	4.99	3.18	2.05	
80 85	998.15	461.28	216.19	103.23	50.52	25.50	13.37	7.31	4.18	2.50	
85 90	18.31	13.02	9.26	6.59	4.68	3.33	2.37	1.68	1.20	0.85	
90 95	42.44	30.26	21.60	15.42	11.02	7.88	5.64	4.04	2.90	2.08	
95 100	24.63	18.23	13.49	9.99	7.39	5.47	4.05	3.00	2.22	1.64	
100 105	21.47	15.63	11.38	8.29	6.04	4.40	3.21	2.34	1.71	1.25	
105 110	9.30	7.00	5.28	3.98	3.00	2.27	1.71	1.29	0.98	0.74	
110 115	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	6.29	4.89	3.81	2.96	2.31	1.80	1.40	1.09	0.85	0.66	
125 130	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
130 135	9.43	7.34	5.71	4.45	3.46	2.69	2.10	1.63	1.27	0.99	
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
150 155	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	1.46	1.21	1.01	0.84	0.70	0.58	0.49	0.40	0.34	0.28	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	197.16	83.14	35.06	14.78	6.23	2.63	1.11	0.47	0.20	0.08	
345 350	389.37	172.07	76.17	33.82	15.10	6.81	3.12	1.47	0.73	0.39	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	187.04	87.36	40.80	19.05	8.90	4.16	1.94	0.91	0.42	0.20	
FIRST HARMONIC											
AMPLITUDE	11377.57	5605.26	2815.86	1445.49	759.68	409.38	226.42	128.58	74.95	44.81	
PHASE	2.50	2.59	2.70	2.82	2.95	3.10	3.26	3.43	3.61	3.80	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	8601.03	4295.35	2186.78	1136.50	603.59	327.79	182.07	103.41	60.03	35.59	
PHASE	2.59	2.68	2.78	2.89	3.01	3.13	3.26	3.40	3.55	3.70	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 80.00 GV											



KIEL											
GEOGRAPHIC LATITUDE = 54.33 GEOGRAPHIC LONGITUDE = 10.13											
ASY. LONG. / BETA =	+1.0	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10 15	184.08	90.66	44.73	22.14	11.02	5.53	2.82	1.47	0.79	0.44	
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20 25	187.04	87.36	40.80	19.05	8.90	4.16	1.94	0.91	0.42	0.20	
25 30	187.77	87.96	41.30	19.48	9.25	4.45	2.18	1.11	0.59	0.34	
30 35	699.81	344.18	169.55	83.67	41.36	20.48	10.16	5.05	2.51	1.25	
35 40	329.42	166.78	84.53	42.89	21.79	11.08	5.64	2.88	1.47	0.75	
40 45	441.21	224.53	114.91	59.14	30.60	15.92	8.32	4.37	2.31	1.22	
45 50	471.81	248.30	131.25	69.70	37.19	19.93	10.74	5.81	3.16	1.73	
50 55	462.87	257.86	144.00	80.62	45.25	25.46	14.37	8.13	4.61	2.62	
55 60	1033.62	571.64	321.05	182.92	105.58	61.65	36.37	21.64	12.98	7.84	
60 65	1274.25	712.32	402.18	229.33	132.05	76.75	45.02	26.64	15.89	9.56	
65 70	714.79	388.54	213.38	118.52	66.64	37.97	21.93	12.85	7.64	4.60	
70 75	320.03	168.74	91.13	50.51	28.76	16.82	10.09	6.20	3.88	2.48	
75 80	192.61	108.69	62.26	36.26	21.49	12.98	7.98	4.99	3.18	2.05	
80 85	412.34	206.68	105.46	55.05	29.54	16.36	9.38	5.57	3.42	2.17	
85 90	18.31	13.02	9.26	6.59	4.68	3.33	2.37	1.68	1.20	0.85	
90 95	42.44	30.26	21.60	15.42	11.02	7.88	5.64	4.04	2.90	2.08	
95 100	24.63	18.23	13.49	9.99	7.39	5.47	4.05	3.00	2.22	1.64	
100 105	21.47	15.63	11.38	8.29	6.04	4.40	3.21	2.34	1.71	1.25	
105 110	9.30	7.00	5.28	3.98	3.00	2.27	1.71	1.29	0.98	0.74	
110 115	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	6.29	4.89	3.81	2.96	2.31	1.80	1.40	1.09	0.85	0.66	
125 130	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
130 135	9.43	7.34	5.71	4.45	3.46	2.69	2.10	1.63	1.27	0.99	
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
150 155	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	1.46	1.21	1.01	0.84	0.70	0.58	0.49	0.40	0.34	0.28	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	187.04	87.36	40.80	19.05	8.90	4.16	1.94	0.91	0.42	0.20	
FIRST HARMONIC											
AMPLITUDE	5819.27	3633.21	1963.19	1077.13	600.74	340.90	196.97	115.95	69.54	42.50	
PHASE	2.90	2.97	3.05	3.14	3.24	3.35	3.47	3.61	3.76	3.91	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	5748.03	3077.53	1668.72	917.04	511.11	289.06	165.97	96.78	57.33	34.50	
PHASE	2.93	2.99	3.06	3.14	3.22	3.31	3.42	3.53	3.64	3.77	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 50.00 GV											

KIEL										
GEOGRAPHIC LATITUDE = 54.33 GEOGRAPHIC LONGITUDE = 10.13										
ASY.LONG./BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
30 35	146.06	76.73	40.30	21.17	11.12	5.84	3.07	1.61	0.85	0.44
35 40	146.06	76.73	40.30	21.17	11.12	5.84	3.07	1.61	0.85	0.44
40 45	254.17	137.18	74.11	40.08	21.70	11.76	6.38	3.46	1.88	1.03
45 50	288.45	158.25	87.03	47.98	26.52	14.70	8.16	4.55	2.54	1.42
50 55	462.87	257.86	144.00	80.62	45.25	25.46	14.37	8.13	4.61	2.62
55 60	659.54	396.92	239.46	144.81	87.78	53.34	32.48	19.83	12.13	7.44
60 65	907.54	532.22	313.73	185.89	110.71	66.28	39.88	24.11	14.65	8.95
65 70	531.43	298.49	169.15	96.80	55.98	32.73	19.36	11.59	7.02	4.30
70 75	132.99	81.38	50.33	31.45	19.86	12.66	8.15	5.29	3.46	2.28
75 80	192.61	108.69	62.26	36.26	21.49	12.98	7.98	4.99	3.18	2.05
80 85	41.95	29.28	20.44	14.27	9.97	6.97	4.87	3.40	2.38	1.66
85 90	18.31	13.02	9.26	6.59	4.68	3.33	2.37	1.68	1.20	0.85
90 95	42.44	30.26	21.60	15.42	11.02	7.88	5.64	4.04	2.90	2.08
95 100	24.63	18.23	13.49	9.99	7.39	5.47	4.05	3.00	2.22	1.64
100 105	21.47	15.63	11.38	8.29	6.04	4.40	3.21	2.34	1.71	1.25
105 110	9.30	7.00	5.28	3.98	3.00	2.27	1.71	1.29	0.98	0.74
110 115	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120 125	6.29	4.89	3.81	2.96	2.31	1.80	1.40	1.09	0.85	0.66
125 130	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
130 135	9.43	7.34	5.71	4.45	3.46	2.69	2.10	1.63	1.27	0.99
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145 150	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
150 155	3.14	2.45	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190	1.46	1.21	1.01	0.84	0.70	0.58	0.49	0.40	0.34	0.28
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC										
AMPLITUDE	3792.73	2187.17	1272.33	747.14	443.19	265.73	161.15	98.89	61.44	38.65
PHASE	3.28	3.33	3.39	3.45	3.53	3.61	3.71	3.82	3.94	4.07
(IN HOURS)										
SECOND HARMONIC										
AMPLITUDE	3505.61	2012.12	1163.27	677.71	398.07	235.86	141.04	85.16	51.95	32.03
PHASE	3.26	3.30	3.35	3.40	3.46	3.53	3.61	3.69	3.79	3.89
(IN HOURS)										
THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV										

KIEV

GEOGRAPHIC LATITUDE = 50.72 GEOGRAPHIC LONGITUDE = 30.30

ASY.LONG./BETA= +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2

0	5	885.78	358.11	144.79	58.55	23.68	9.58	3.87	1.57	0.63	0.26
5	10	2812.70	919.83	305.69	103.57	35.88	12.74	4.64	1.74	0.67	0.26
10	15	7468.75	2353.91	747.16	239.27	77.48	25.44	8.50	2.90	1.01	0.36
15	20	1689.52	620.22	227.68	83.58	30.68	11.26	4.13	1.52	0.56	0.20
20	25	3214.55	1140.02	409.56	149.29	55.30	20.84	8.00	3.13	1.25	0.51
25	30	5340.09	1659.83	521.14	165.71	53.51	17.61	5.92	2.04	0.72	0.26
30	35	5071.68	1609.01	515.01	166.58	54.55	18.12	6.12	2.11	0.74	0.27
35	40	12405.37	3970.69	1283.47	420.61	140.61	48.41	17.42	6.69	2.82	1.34
40	45	14222.55	4836.43	1660.28	575.45	201.41	71.20	25.44	9.19	3.36	1.24
45	50	3265.53	1340.78	551.10	226.77	93.43	38.54	15.92	6.58	2.73	1.13
50	55	3074.28	1245.07	510.86	212.47	89.59	38.30	16.60	7.29	3.24	1.45
55	60	4504.07	1623.98	614.52	244.05	101.38	43.80	19.55	8.97	4.20	2.00
60	65	5214.27	1737.68	589.12	204.39	73.09	27.15	10.55	4.31	1.85	0.84
65	70	2425.14	983.05	407.88	173.67	76.00	34.19	15.80	7.48	3.62	1.79
70	75	1828.12	809.93	364.96	167.62	78.61	37.68	18.46	9.24	4.72	2.45
75	80	996.78	498.58	251.92	128.62	66.37	34.61	18.24	9.71	5.21	2.83
80	85	8730.82	2952.60	1038.82	385.14	152.28	64.68	29.51	14.35	7.35	3.92
85	90	4286.88	1851.44	829.49	387.28	188.84	96.08	50.83	27.81	15.64	8.99
90	95	1432.24	728.13	377.50	199.62	107.63	59.13	33.06	18.79	10.84	6.33
95	100	871.65	443.22	229.62	185.50	65.79	36.50	20.76	12.09	7.20	4.37
100	105	56.34	37.63	25.15	16.81	11.24	7.52	5.03	3.37	2.26	1.51
105	110	28.52	19.06	12.74	8.51	5.69	3.80	2.54	1.70	1.14	0.76
110	115	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28
115	120	38.76	26.38	17.96	12.23	8.33	5.67	3.86	2.63	1.79	1.22
120	125	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28
125	130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130	135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135	140	40.73	28.68	20.19	14.22	10.02	7.06	4.98	3.51	2.47	1.75
140	145	9.49	6.75	4.80	3.41	2.43	1.73	1.23	0.87	0.62	0.44
145	150	14.09	10.33	7.58	5.58	4.11	3.04	2.25	1.67	1.24	0.92
150	155	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87
155	160	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43
160	165	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87
175	180	19.15	14.17	10.49	7.76	5.75	4.25	3.15	2.33	1.73	1.28
180	185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43
200	205	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345	350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350	355	4932.24	1489.97	450.38	136.23	41.23	12.49	3.78	1.15	0.35	0.11
355	360	6556.49	2140.40	704.15	233.43	77.97	26.24	8.89	3.03	1.04	0.36

FIRST HARMONIC

AMPLITUDE 89930.4531237.0411219.34 4205.81 1663.48 701.61 317.91 154.93 80.75 44.57  
 PHASE 0.72 0.88 1.10 1.38 1.73 2.15 2.61 3.09 3.55 3.97

(IN HOURS)

SECOND HARMONIC

AMPLITUDE 61325.2620848.82 7295.43 2660.94 1030.07 431.43 197.46 98.03 51.80 28.58  
 PHASE 0.67 0.84 1.07 1.36 1.72 2.15 2.58 2.99 3.35 3.66

(IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV



KIEV											
GEOGRAPHIC LATITUDE = 50.72 GEOGRAPHIC LONGITUDE = 30.30											
ASY. LONG./BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	885.78	358.11	144.79	58.55	23.68	9.58	3.87	1.57	0.63	0.26	
5 10	409.09	175.01	74.89	32.05	13.72	5.87	2.52	1.08	0.46	0.20	
10 15	198.17	88.91	39.89	17.90	8.03	3.60	1.62	0.73	0.33	0.15	
15 20	1089.52	620.22	227.68	83.58	30.68	11.26	4.13	1.52	0.56	0.20	
20 25	876.21	364.99	152.68	64.15	27.08	11.49	4.90	2.10	0.91	0.39	
25 30	407.85	169.86	70.76	29.48	12.28	5.12	2.13	0.89	0.37	0.15	
30 35	204.71	88.83	38.54	16.73	7.26	3.15	1.37	0.59	0.26	0.11	
35 40	392.84	185.84	88.52	42.58	20.77	10.35	5.31	2.83	1.59	0.94	
40 45	6951.96	2571.43	953.02	354.08	131.96	49.36	18.55	7.01	2.67	1.02	
45 50	3265.53	1340.78	551.10	226.77	93.43	38.54	15.92	6.58	2.73	1.13	
50 55	3074.28	1245.07	510.86	212.47	89.59	38.30	16.60	7.29	3.24	1.45	
55 60	1975.44	878.83	394.93	179.34	82.31	38.18	17.90	8.48	4.05	1.96	
60 65	472.32	217.83	101.44	47.73	22.71	10.93	5.32	2.62	1.31	0.66	
65 70	2425.14	983.05	407.88	173.67	76.00	34.19	15.80	7.48	3.62	1.79	
70 75	1828.12	809.93	364.96	167.62	78.61	37.68	18.46	9.24	4.72	2.45	
75 80	996.78	498.58	251.92	128.62	66.37	34.61	18.24	9.71	5.21	2.83	
80 85	1460.23	687.60	331.56	163.77	82.83	42.84	22.63	12.18	6.67	3.70	
85 90	4286.88	1851.44	829.49	387.28	188.84	96.08	50.83	27.81	15.64	8.99	
90 95	1432.24	728.13	377.50	199.62	107.63	59.13	33.06	18.79	10.84	6.33	
95 100	871.65	443.22	229.62	121.50	65.79	36.50	20.76	12.09	7.20	4.37	
100 105	56.34	37.63	25.15	16.81	11.24	7.52	5.03	3.37	2.26	1.51	
105 110	28.52	19.06	12.74	8.51	5.69	3.80	2.54	1.70	1.14	0.76	
110 115	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28	
115 120	38.76	26.38	17.96	12.23	8.33	5.67	3.86	2.63	1.79	1.22	
120 125	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
135 140	40.73	28.68	20.19	14.22	10.02	7.06	4.98	3.51	2.47	1.75	
140 145	9.49	6.75	4.80	3.41	2.43	1.73	1.23	0.87	0.62	0.44	
145 150	14.09	10.33	7.58	5.58	4.11	3.04	2.25	1.67	1.24	0.92	
150 155	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87	
155 160	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
160 165	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87	
175 180	19.15	14.17	10.49	7.76	5.75	4.25	3.15	2.33	1.73	1.28	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
200 205	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	1089.52	620.22	227.68	83.58	30.68	11.26	4.13	1.52	0.56	0.20	
FIRST HARMONIC											
AMPLITUDE	32210.4013445.34	5754.63	2538.22	1159.81	551.63	274.01	142.31	77.19	43.58		
PHASE	1.63	1.78	1.96	2.18	2.44	2.74	3.07	3.41	3.76	4.10	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	22811.22	9443.62	4010.77	1758.11	800.22	379.92	188.44	97.44	52.27	28.91	
PHASE	1.68	1.83	2.01	2.22	2.46	2.72	2.98	3.25	3.50	3.75	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV											



KIEV											
GEOGRAPHIC LATITUDE = 50.72 GEOGRAPHIC LONGITUDE = 30.30											
ASY. LONG./BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	885.78	358.11	144.79	58.55	23.68	9.98	3.87	1.57	0.63	0.26	
5 10	409.09	175.01	74.89	32.05	13.72	5.87	2.52	1.08	0.46	0.20	
10 15	198.17	88.91	39.89	17.90	8.03	3.60	1.62	0.73	0.33	0.15	
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20 25	876.21	364.99	152.68	64.15	27.08	11.49	4.90	2.10	0.91	0.39	
25 30	407.85	169.86	70.76	29.48	12.28	5.12	2.13	0.89	0.37	0.15	
30 35	204.71	88.83	38.54	16.73	7.26	3.15	1.37	0.59	0.26	0.11	
35 40	392.84	185.84	88.52	42.58	20.77	10.35	5.31	2.83	1.59	0.94	
40 45	193.89	90.56	42.29	19.75	9.23	4.31	2.01	0.94	0.44	0.21	
45 50	3265.53	1340.78	551.10	226.77	93.43	38.54	15.92	6.58	2.73	1.13	
50 55	1384.76	624.86	283.18	128.89	58.91	27.04	12.46	5.77	2.68	1.25	
55 60	1975.44	878.83	394.93	179.34	82.31	38.18	17.90	8.48	4.05	1.96	
60 65	472.32	217.83	101.44	47.73	22.71	10.93	5.32	2.62	1.31	0.66	
65 70	735.63	362.83	180.20	90.08	45.32	22.93	11.67	5.97	3.07	1.58	
70 75	1828.12	809.93	364.96	167.62	78.61	37.68	18.46	9.24	4.72	2.45	
75 80	996.78	498.58	251.92	128.62	66.37	34.61	18.24	9.71	5.21	2.83	
80 85	1460.23	687.60	331.56	163.77	82.83	42.84	22.63	12.18	6.67	3.70	
85 90	2597.36	1231.22	601.81	303.69	158.15	84.82	46.70	26.30	15.09	8.79	
90 95	1432.24	728.13	377.50	199.62	107.63	59.13	33.06	18.79	10.84	6.33	
95 100	871.65	443.22	229.62	121.50	65.79	36.50	20.76	12.09	7.20	4.37	
100 105	56.34	37.63	25.15	16.81	11.24	7.52	5.03	3.37	2.26	1.51	
105 110	28.52	19.06	12.74	8.51	5.69	3.80	2.54	1.70	1.14	0.76	
110 115	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28	
115 120	38.76	26.38	17.96	12.23	8.33	5.67	3.86	2.63	1.79	1.22	
120 125	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
135 140	40.73	28.68	20.19	14.22	10.02	7.06	4.98	3.51	2.47	1.75	
140 145	9.49	6.75	4.80	3.41	2.43	1.73	1.23	0.87	0.62	0.44	
145 150	14.09	10.33	7.58	5.58	4.11	3.04	2.25	1.67	1.24	0.92	
150 155	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87	
155 160	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
160 165	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87	
175 180	19.15	14.17	10.49	7.76	5.75	4.25	3.15	2.33	1.73	1.28	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
200 205	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FIRST HARMONIC											
AMPLITUDE	18758.57	8559.37	3987.52	1902.84	933.10	471.50	246.01	132.65	73.90	42.47	
PHASE	2.17	2.30	2.45	2.64	2.85	3.09	3.35	3.63	3.92	4.21	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	13692.60	6252.48	2914.54	1390.95	681.34	343.12	177.72	94.59	51.63	28.83	
PHASE	2.26	2.38	2.52	2.67	2.85	3.03	3.23	3.43	3.63	3.83	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV											

KIEV											
GEOGRAPHIC LATITUDE = 50.72 GEOGRAPHIC LONGITUDE = 30.30											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	409.09	175.01	74.89	32.05	13.72	5.87	2.52	1.08	0.46	0.20	0.00
10 15	198.17	88.91	39.89	17.90	8.03	3.60	1.62	0.73	0.33	0.15	0.00
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25	193.89	90.56	42.29	19.75	9.23	4.31	2.01	0.94	0.44	0.21	0.00
25 30	204.39	86.19	36.34	15.33	6.46	2.73	1.15	0.48	0.20	0.09	0.00
30 35	204.71	88.83	38.54	16.73	7.26	3.15	1.37	0.59	0.26	0.11	0.00
35 40	392.84	185.84	88.52	42.58	20.77	10.35	5.31	2.83	1.59	0.94	0.00
40 45	193.89	90.56	42.29	19.75	9.23	4.31	2.01	0.94	0.44	0.21	0.00
45 50	811.65	350.12	151.13	65.28	28.21	12.20	5.28	2.29	0.99	0.43	0.00
50 55	1181.30	541.18	248.76	114.73	53.09	24.65	11.48	5.36	2.51	1.18	0.00
55 60	1089.66	520.72	250.14	120.79	58.63	28.60	14.03	6.91	3.42	1.70	0.00
60 65	472.32	217.83	101.44	47.73	22.71	10.93	5.32	2.62	1.31	0.66	0.00
65 70	735.63	362.83	180.20	90.08	45.32	22.93	11.67	5.97	3.07	1.58	0.00
70 75	942.34	451.82	220.16	109.07	54.93	28.10	14.59	7.68	4.09	2.20	0.00
75 80	996.78	498.58	251.92	128.62	66.37	34.61	18.24	9.71	5.21	2.83	0.00
80 85	777.92	413.17	221.18	119.37	64.97	35.66	19.74	11.02	6.20	3.51	0.00
85 90	1508.12	789.44	422.60	230.99	128.65	72.85	41.84	24.32	14.28	8.46	0.00
90 95	1432.24	728.13	377.50	199.62	107.63	59.13	33.06	18.79	10.84	6.33	0.00
95 100	871.65	443.22	229.62	121.50	65.79	36.50	20.76	12.09	7.20	4.37	0.00
100 105	56.34	37.63	25.15	16.81	11.24	7.52	5.03	3.37	2.26	1.51	0.00
105 110	28.52	19.06	12.74	8.51	5.69	3.80	2.54	1.70	1.14	0.76	0.00
110 115	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28	0.00
115 120	38.76	26.38	17.96	12.23	8.33	5.67	3.86	2.63	1.79	1.22	0.00
120 125	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28	0.00
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135 140	40.73	28.68	20.19	14.22	10.02	7.06	4.98	3.51	2.47	1.75	0.00
140 145	9.49	6.75	4.80	3.41	2.43	1.73	1.23	0.87	0.62	0.44	0.00
145 150	14.09	10.33	7.58	5.58	4.11	3.04	2.25	1.67	1.24	0.92	0.00
150 155	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87	0.00
155 160	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	0.00
160 165	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	0.00
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87	0.00
175 180	19.15	14.17	10.49	7.76	5.75	4.25	3.15	2.33	1.73	1.28	0.00
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	0.00
200 205	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	0.00
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	4.59	3.38	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.00
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC											
AMPLITUDE	11750.17	5749.40	2864.14	1455.45	755.80	401.66	218.69	122.05	69.82	40.91	
PHASE	2.58	2.70	2.84	3.00	3.19	3.39	3.61	3.84	4.09	4.34	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	8986.25	4407.69	2198.36	1116.25	577.52	304.57	163.71	89.63	49.94	28.27	
PHASE	2.64	2.75	2.86	2.99	3.13	3.28	3.43	3.59	3.75	3.93	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 40.00 GV											

KIEV											
GEOGRAPHIC LATITUDE = 50.72 GEOGRAPHIC LONGITUDE = 30.30											
ASY. LONG./BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20 25	193.89	90.56	42.29	19.75	9.23	4.31	2.01	0.94	0.44	0.21	
25 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
30 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
35 40	194.67	96.92	48.63	24.68	12.74	6.74	3.69	2.11	1.26	0.80	
40 45	193.89	90.56	42.29	19.75	9.23	4.31	2.01	0.94	0.44	0.21	
45 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
50 55	574.04	277.25	133.98	64.78	31.34	15.17	7.35	3.56	1.73	0.84	
55 60	686.78	342.98	171.70	86.16	43.34	21.85	11.04	5.59	2.84	1.44	
60 65	267.93	131.65	65.10	32.41	16.25	8.21	4.17	2.14	1.10	0.57	
65 70	530.92	274.00	141.65	73.36	38.06	19.78	10.30	5.37	2.81	1.47	
70 75	335.07	187.89	105.38	59.12	33.18	18.62	10.46	5.87	3.30	1.85	
75 80	798.61	409.66	212.02	110.72	58.34	31.01	16.62	8.98	4.89	2.68	
80 85	777.92	413.17	221.18	119.37	64.97	35.66	19.74	11.02	6.20	3.51	
85 90	900.86	525.51	307.82	181.04	106.90	63.37	37.71	22.52	13.50	8.12	
90 95	1023.15	553.11	302.61	167.57	93.91	53.26	30.55	17.71	10.38	6.14	
95 100	673.48	354.31	189.73	103.60	57.76	32.90	19.14	11.36	6.87	4.23	
100 105	56.34	37.63	25.15	16.81	11.24	7.52	5.03	3.37	2.26	1.51	
105 110	28.52	19.06	12.74	8.51	5.69	3.80	2.54	1.70	1.14	0.76	
110 115	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28	
115 120	38.76	26.38	17.96	12.23	8.33	5.67	3.86	2.63	1.79	1.22	
120 125	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
135 140	40.73	28.68	20.19	14.22	10.02	7.06	4.98	3.51	2.47	1.75	
140 145	9.49	6.75	4.80	3.41	2.43	1.73	1.23	0.87	0.62	0.44	
145 150	14.09	10.33	7.58	5.58	4.11	3.04	2.25	1.67	1.24	0.92	
150 155	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87	
155 160	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
160 165	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87	
175 180	19.15	14.17	10.49	7.76	5.75	4.25	3.15	2.33	1.73	1.28	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
200 205	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FIRST HARMONIC											
AMPLITUDE	6956.65	3682.64	1974.50	1073.35	592.15	331.82	189.01	109.50	64.54	38.71	
PHASE	3.10	3.20	3.31	3.43	3.58	3.73	3.91	4.09	4.30	4.51	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	5770.40	3046.71	1625.52	876.74	478.17	263.76	147.14	83.00	47.33	27.28	
PHASE	3.09	3.16	3.24	3.34	3.43	3.54	3.65	3.78	3.91	4.05	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 50.00 GV											



KIEV											
GEOGRAPHIC LATITUDE = 50.72 GEOGRAPHIC LONGITUDE = 30.30											
ASY. LONG./BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35 40	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48	
40 45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50 55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55 60	302.82	159.07	83.56	43.90	23.06	12.11	6.36	3.34	1.76	0.92	
60 65	74.04	41.09	22.80	12.65	7.02	3.90	2.16	1.20	0.67	0.37	
65 70	340.85	180.65	95.81	50.84	27.00	14.35	7.63	4.06	2.16	1.15	
70 75	335.07	187.89	105.38	59.12	33.18	18.62	10.46	5.87	3.30	1.85	
75 80	410.83	228.55	127.44	71.22	39.89	22.39	12.60	7.10	4.01	2.27	
80 85	397.77	226.47	129.49	74.34	42.85	24.80	14.41	8.40	4.91	2.88	
85 90	900.86	525.51	307.82	181.04	106.90	63.37	37.71	22.52	13.50	8.12	
90 95	639.19	369.21	214.47	125.30	73.63	43.52	25.87	15.46	9.29	5.62	
95 100	289.52	170.40	101.59	61.34	37.48	23.16	14.46	9.11	5.79	3.70	
100 105	56.34	37.63	25.15	16.81	11.24	7.52	5.03	3.37	2.26	1.51	
105 110	28.52	19.06	12.74	8.51	5.69	3.80	2.54	1.70	1.14	0.76	
110 115	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28	
115 120	38.76	26.38	17.96	12.23	8.33	5.67	3.86	2.63	1.79	1.22	
120 125	33.99	23.60	16.39	11.38	7.91	5.50	3.82	2.66	1.85	1.28	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
135 140	40.73	28.68	20.19	14.22	10.02	7.06	4.98	3.51	2.47	1.75	
140 145	9.49	6.75	4.80	3.41	2.43	1.73	1.23	0.87	0.62	0.44	
145 150	14.09	10.33	7.58	5.58	4.11	3.04	2.25	1.67	1.24	0.92	
150 155	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87	
155 160	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
160 165	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	15.87	11.47	8.30	6.00	4.34	3.14	2.28	1.65	1.20	0.87	
175 180	19.15	14.17	10.49	7.76	5.75	4.25	3.15	2.33	1.73	1.28	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
200 205	6.38	4.72	3.50	2.59	1.92	1.42	1.05	0.78	0.58	0.43	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FIRST HARMONIC											
AMPLITUDE	3818.34	2187.75	1263.01	735.11	431.60	255.77	153.08	92.58	56.60	35.00	
PHASE	3.64	3.71	3.80	3.90	4.01	4.13	4.27	4.41	4.58	4.75	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	3409.11	1932.56	1101.10	630.65	363.14	210.24	122.39	71.64	42.17	24.96	
PHASE	3.54	3.59	3.65	3.71	3.78	3.85	3.94	4.03	4.13	4.25	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV											



## LEEDS

GEOGRAPHIC LATITUDE = 53.82 GEOGRAPHIC LONGITUDE = 358.45  
 ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2

0	5	4935.63	1518.94	471.66	148.27	47.39	15.48	5.20	1.80	0.65	0.24
5	10	12494.85	4117.95	1365.61	455.69	153.00	51.68	17.56	6.00	2.06	0.71
10	15	11940.38	4068.00	1404.66	491.82	174.68	62.95	23.02	8.54	3.22	1.23
15	20	3837.56	1531.08	614.60	248.24	100.89	41.27	16.98	7.03	2.93	1.23
20	25	2084.19	937.68	425.90	195.32	90.44	42.27	19.94	9.49	4.56	2.20
25	30	3073.10	1012.23	348.77	126.92	49.06	20.15	8.74	3.97	1.87	0.91
30	35	5308.47	1826.62	649.00	240.36	93.60	38.54	16.79	7.70	3.69	1.83
35	40	2148.26	853.34	346.59	144.59	62.22	27.71	12.78	6.11	3.02	1.54
40	45	1876.35	844.58	387.91	182.24	87.74	43.33	21.96	11.40	6.06	3.29
45	50	1544.18	832.89	457.40	255.59	145.15	83.66	48.86	28.86	17.22	10.36
50	55	3429.88	1279.78	531.63	246.09	124.70	67.44	38.06	22.08	13.04	7.80
55	60	8473.81	3102.03	1173.27	461.61	190.27	82.59	37.92	18.43	9.45	5.09
60	65	797.63	351.63	161.17	77.60	39.55	21.40	12.25	7.36	4.59	2.95
65	70	584.45	271.80	130.16	64.52	33.25	17.87	10.01	5.84	3.52	2.19
70	75	784.36	367.40	174.11	83.82	41.23	20.85	10.91	5.95	3.39	2.02
75	80	42.33	30.18	21.54	15.38	10.99	7.86	5.63	4.03	2.89	2.07
80	85	27.55	20.13	14.71	10.75	7.86	5.75	4.21	3.08	2.26	1.65
85	90	21.41	15.58	11.35	8.26	6.02	4.39	3.20	2.33	1.70	1.24
90	95	15.41	11.53	8.63	6.46	4.84	3.62	2.72	2.04	1.53	1.15
95	100	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
100	105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105	110	9.40	7.32	5.70	4.43	3.45	2.69	2.09	1.63	1.27	0.99
110	115	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
115	120	6.27	4.88	3.80	2.96	2.30	1.79	1.39	1.09	0.84	0.66
120	125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125	130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130	135	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33
135	140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	155	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
155	160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160	165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
175	180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180	185	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	200	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
230	235	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	2432.63	716.86	211.25	62.25	18.34	5.41	1.59	0.47	0.14	0.04
310	315	2312.35	716.54	222.04	68.80	21.32	6.61	2.05	0.63	0.20	0.06
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	10869.48	3521.28	1146.58	375.28	123.48	40.84	13.58	4.54	1.53	0.52
325	330	852.15	344.52	139.30	56.33	22.78	9.21	3.73	1.51	0.61	0.25
330	335	393.56	168.37	72.05	30.83	13.20	5.65	2.42	1.04	0.44	0.19
335	340	4935.63	1518.94	471.66	148.27	47.39	15.48	5.20	1.80	0.65	0.24
340	345	3874.94	1342.28	466.16	162.32	56.67	19.83	6.96	2.45	0.86	0.31
345	350	842.94	351.13	146.88	61.71	26.05	11.05	4.72	2.02	0.87	0.38
350	355	5137.34	1596.81	501.35	159.41	51.48	16.94	5.69	1.96	0.69	0.25
355	360	2629.35	920.87	328.31	119.66	44.77	17.25	6.86	2.82	1.19	0.52

## FIRST HARMONIC

AMPLITUDE 83924.4629266.8810580.25 4006.75 1608.33 691.64 320.58 159.99 85.31 48.08  
 PHASE 0.59 0.76 0.98 1.26 1.59 1.98 2.39 2.80 3.17 3.51

(IN HOURS)

## SECOND HARMONIC

AMPLITUDE 51167.4317589.55 6274.64 2364.51 962.57 430.72 211.89 112.73 63.53 37.31  
 PHASE 0.59 0.78 1.03 1.36 1.76 2.18 2.59 2.95 3.25 3.49

(IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV

LEEDS											
GEOGRAPHIC LATITUDE = 53.82 GEOGRAPHIC LONGITUDE = 358.45											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	190.65	85.54	38.38	17.22	7.73	3.47	1.56	0.70	0.31	0.14	
5 10	3250.75	1193.34	438.07	160.82	59.04	21.67	7.96	2.92	1.07	0.39	
10 15	4945.84	1888.99	724.25	278.86	107.87	41.94	16.40	6.45	2.55	1.02	
15 20	3637.56	1531.08	614.60	248.24	100.89	41.27	16.98	7.03	2.93	1.23	
20 25	2084.19	937.68	425.90	195.32	90.44	42.27	19.94	9.49	4.56	2.20	
25 30	640.47	295.37	137.53	64.67	30.72	14.74	7.15	3.50	1.73	0.87	
30 35	746.55	364.47	179.83	89.65	45.13	22.94	11.76	6.08	3.17	1.66	
35 40	2148.26	853.34	346.59	144.59	62.22	27.71	12.78	6.11	3.02	1.54	
40 45	1876.35	844.58	387.91	182.24	87.74	43.33	21.96	11.40	6.06	3.29	
45 50	1544.18	832.89	457.40	255.59	145.15	83.66	48.86	28.86	17.22	10.36	
50 55	997.26	562.93	320.38	183.84	106.36	62.03	36.47	21.61	12.90	7.76	
55 60	3911.89	1639.88	704.10	310.90	141.75	66.98	32.89	16.80	8.93	4.92	
60 65	797.63	351.63	161.17	77.60	39.55	21.40	12.25	7.36	4.59	2.95	
65 70	584.45	271.80	130.16	64.52	33.25	17.87	10.01	5.84	3.52	2.19	
70 75	784.36	367.40	174.11	83.82	41.23	20.85	10.91	5.95	3.39	2.02	
75 80	42.33	30.18	21.54	15.38	10.99	7.86	5.63	4.03	2.89	2.07	
80 85	27.55	20.13	14.71	10.75	7.86	5.75	4.21	3.08	2.26	1.65	
85 90	21.41	15.58	11.35	8.26	6.02	4.39	3.20	2.33	1.70	1.24	
90 95	15.41	11.53	8.63	6.46	4.84	3.62	2.72	2.04	1.53	1.15	
95 100	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
100 105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
105 110	9.40	7.32	5.70	4.43	3.45	2.69	2.09	1.63	1.27	0.99	
110 115	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
115 120	6.27	4.88	3.80	2.96	2.30	1.79	1.39	1.09	0.84	0.66	
120 125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
150 155	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
230 235	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	1625.37	556.67	219.04	80.41	29.52	10.84	3.98	1.46	0.54	0.20	
325 330	852.15	344.52	139.30	56.33	22.78	9.21	3.73	1.51	0.61	0.25	
330 335	393.56	168.37	72.05	30.83	13.20	5.65	2.42	1.04	0.44	0.19	
335 340	190.65	85.54	38.38	17.22	7.73	3.47	1.56	0.70	0.31	0.14	
340 345	1625.37	556.67	219.04	80.41	29.52	10.84	3.98	1.46	0.54	0.20	
345 350	842.94	351.13	146.88	61.71	26.05	11.05	4.72	2.02	0.87	0.38	
350 355	392.36	163.41	68.07	28.36	11.82	4.92	2.05	0.86	0.36	0.15	
355 360	379.79	175.26	81.19	37.75	17.62	8.25	3.88	1.83	0.87	0.41	
FIRST HARMONIC											
AMPLITUDE	30712.23	12881.13	5551.70	2472.50	1144.14	552.65	279.41	147.91	81.79	47.06	
PHASE	1.54	1.68	1.85	2.05	2.27	2.53	2.79	3.07	3.35	3.61	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	20845.49	8742.34	3785.39	1704.62	803.47	397.91	207.05	112.80	63.99	37.58	
PHASE	1.61	1.76	1.95	2.17	2.40	2.65	2.89	3.13	3.34	3.55	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV											

LEEDS											
GEOGRAPHIC LATITUDE = 53.82 GEOGRAPHIC LONGITUDE = 358.45											
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	190.65	85.54	38.38	17.22	7.73	3.47	1.56	0.70	0.31	0.14	
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10 15	1695.09	695.65	286.18	118.04	48.83	20.27	8.44	3.53	1.48	0.62	
15 20	2212.19	934.41	395.56	167.83	71.38	30.43	13.00	5.57	2.39	1.03	
20 25	2084.19	937.68	425.90	195.32	90.44	42.27	19.94	9.49	4.56	2.20	
25 30	640.47	295.37	137.53	64.67	30.72	14.74	7.15	3.50	1.73	0.87	
30 35	746.55	364.47	179.83	89.65	45.13	22.94	11.76	6.08	3.17	1.66	
35 40	522.89	256.67	127.55	64.18	32.70	16.87	8.81	4.65	2.48	1.34	
40 45	1876.35	844.58	387.91	182.24	87.74	43.33	21.96	11.40	6.06	3.29	
45 50	1544.18	832.89	457.40	255.59	145.15	83.66	48.86	28.86	17.22	10.36	
50 55	997.26	562.93	320.38	183.84	106.36	62.03	36.47	21.61	12.90	7.76	
55 60	2286.52	1043.21	485.06	230.49	112.24	56.15	28.91	15.34	8.39	4.73	
60 65	797.63	351.63	161.17	77.60	39.55	21.40	12.25	7.36	4.59	2.95	
65 70	584.45	271.80	130.16	64.52	33.25	17.87	10.01	5.84	3.52	2.19	
70 75	784.36	367.40	174.11	83.82	41.23	20.85	10.91	5.95	3.39	2.02	
75 80	42.33	30.18	21.54	15.38	10.99	7.86	5.63	4.03	2.89	2.07	
80 85	27.55	20.13	14.71	10.75	7.86	5.75	4.21	3.08	2.26	1.65	
85 90	21.41	15.58	11.35	8.26	6.02	4.39	3.20	2.33	1.70	1.24	
90 95	15.41	11.53	8.63	6.46	4.84	3.62	2.72	2.04	1.33	1.15	
95 100	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
100 105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
105 110	9.40	7.32	5.70	4.43	3.45	2.69	2.09	1.63	1.27	0.99	
110 115	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
115 120	6.27	4.88	3.80	2.96	2.30	1.79	1.39	1.09	0.84	0.66	
120 125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
150 155	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
230 235	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	852.15	344.52	139.30	56.33	27.78	9.21	3.73	1.51	0.61	0.25	
330 335	393.56	168.37	72.05	30.83	13.20	5.65	2.42	1.04	0.44	0.19	
335 340	190.65	85.54	38.38	17.22	7.73	3.47	1.56	0.70	0.31	0.14	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	842.94	351.13	146.88	61.71	26.05	11.05	4.72	2.02	0.87	0.38	
350 355	392.36	163.41	68.07	28.36	11.82	4.92	2.05	0.86	0.36	0.15	
355 360	379.79	175.26	81.19	37.75	17.62	8.25	3.88	1.83	0.87	0.41	
FIRST HARMONIC											
AMPLITUDE	17947.41	8241.65	3871.21	1866.48	926.78	475.18	251.99	138.27	78.43	45.90	
PHASE	2.10	2.21	2.33	2.48	2.65	2.84	3.04	3.26	3.48	3.70	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	12640.88	5885.59	2809.42	1379.32	698.36	365.22	197.36	110.11	63.32	37.44	
PHASE	2.22	2.34	2.47	2.61	2.76	2.93	3.10	3.27	3.44	3.60	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV											



LEEDS											
GEOGRAPHIC LATITUDE = 53.82 GEOGRAPHIC LONGITUDE = 358.45											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.											
0 5	190.65	85.54	38.38	17.22	7.73	3.47	1.56	0.70	0.31	0.14	
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10 15	186.53	87.12	40.69	19.00	8.88	4.15	1.94	0.90	0.42	0.20	
15 20	1164.30	509.40	223.16	97.89	43.00	18.91	8.33	3.68	1.62	0.72	
20 25	1427.77	673.67	319.71	152.61	73.26	35.36	17.16	8.37	4.11	2.02	
25 30	444.73	214.87	104.42	51.05	25.12	12.44	6.20	3.11	1.57	0.80	
30 35	746.55	364.47	179.83	89.65	45.13	22.94	11.76	6.08	3.17	1.66	
35 40	522.89	256.67	127.55	64.18	32.70	16.87	8.81	4.65	2.48	1.34	
40 45	1024.20	500.06	248.61	125.91	64.96	34.12	18.23	9.90	5.45	3.04	
45 50	1544.18	832.89	457.40	255.59	145.15	83.66	48.86	28.86	17.22	10.36	
50 55	997.26	562.93	320.38	183.84	106.36	62.03	36.47	21.61	12.90	7.76	
55 60	1434.37	698.69	345.77	174.17	89.46	46.93	25.19	13.84	7.78	4.48	
60 65	141.22	87.61	54.98	34.89	22.37	14.49	9.47	6.24	4.14	2.77	
65 70	388.71	191.30	97.05	50.90	27.65	15.56	9.06	5.45	3.36	2.13	
70 75	784.36	367.40	174.11	83.82	41.23	20.85	10.91	5.95	3.39	2.02	
75 80	42.33	30.18	21.54	15.38	10.99	7.86	5.63	4.03	2.89	2.07	
80 85	27.55	20.13	14.71	10.75	7.86	5.75	4.21	3.08	2.26	1.65	
85 90	21.41	15.58	11.35	8.26	6.02	4.39	3.20	2.33	1.70	1.24	
90 95	15.41	11.53	8.63	6.46	4.84	3.62	2.72	2.04	1.53	1.15	
95 100	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
100 105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
105 110	9.40	7.32	5.70	4.43	3.45	2.69	2.09	1.63	1.27	0.99	
110 115	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
115 120	6.27	4.88	3.80	2.96	2.30	1.79	1.39	1.09	0.84	0.66	
120 125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
150 155	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
230 235	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	393.56	168.37	72.05	30.83	13.20	5.65	2.42	1.04	0.44	0.19	
335 340	190.65	85.54	38.38	17.22	7.73	3.47	1.56	0.70	0.31	0.14	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	186.53	87.12	40.69	19.00	8.88	4.15	1.94	0.90	0.42	0.20	
350 355	196.63	82.91	34.96	14.74	6.22	2.62	1.11	0.47	0.20	0.08	
355 360	379.79	175.26	81.19	37.75	17.62	8.25	3.88	1.83	0.87	0.41	
FIRST HARMONIC											
AMPLITUDE	11362.28	5596.04	2810.30	1442.06	757.47	407.87	225.33	127.76	74.30	44.29	
PHASE	2.47	2.57	2.67	2.79	2.93	3.08	3.24	3.42	3.60	3.80	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	8657.51	4320.79	2199.53	1143.86	608.46	331.33	184.77	105.51	61.67	36.87	
PHASE	2.57	2.67	2.76	2.87	2.99	3.11	3.25	3.38	3.52	3.66	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 80.00 GV											



LEEDS											
GEOGRAPHIC LATITUDE = 53.82 GEOGRAPHIC LONGITUDE = 358.45											
ASY. LONG./BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15	186.53	87.12	40.69	19.00	8.88	4.15	1.94	0.90	0.42	0.20	0.20
15 20	186.53	87.12	40.69	19.00	8.88	4.15	1.94	0.90	0.42	0.20	0.20
20 25	843.56	419.76	209.29	104.55	52.33	26.25	13.19	6.64	3.35	1.69	1.69
25 30	254.09	129.33	66.04	33.83	17.39	8.97	4.65	2.41	1.26	0.66	0.66
30 35	549.93	281.56	144.87	74.91	38.92	20.32	10.65	5.61	2.97	1.58	1.58
35 40	325.96	171.22	90.47	48.09	25.72	13.84	7.49	4.08	2.24	1.23	1.23
40 45	440.00	246.15	138.19	77.86	44.04	25.00	14.25	8.16	4.69	2.71	2.71
45 50	1353.53	747.35	419.03	238.37	137.42	80.19	47.30	28.17	16.91	10.22	10.22
50 55	997.26	562.93	320.38	183.84	106.36	62.03	36.47	21.61	12.90	7.76	7.76
55 60	850.16	444.78	235.34	126.11	68.53	37.82	21.21	12.10	7.03	4.15	4.15
60 65	141.22	87.61	54.98	34.89	22.37	14.49	9.47	6.24	4.14	2.77	2.77
65 70	192.08	108.39	62.09	36.16	21.44	12.94	7.96	4.98	3.17	2.04	2.04
70 75	396.78	196.40	98.65	50.51	26.52	14.35	8.04	4.68	2.83	1.77	1.77
75 80	42.33	30.18	21.54	15.38	10.99	7.86	5.63	4.03	2.89	2.07	2.07
80 85	27.55	20.13	14.71	10.75	7.86	5.75	4.21	3.08	2.26	1.65	1.65
85 90	21.41	15.58	11.35	8.26	6.02	4.39	3.20	2.33	1.70	1.24	1.24
90 95	15.41	11.53	8.63	6.46	4.84	3.62	2.72	2.04	1.53	1.15	1.15
95 100	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	0.33
100 105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105 110	9.40	7.32	5.70	4.43	3.45	2.69	2.09	1.63	1.27	0.99	0.99
110 115	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	0.33
115 120	6.27	4.88	3.80	2.96	2.30	1.79	1.39	1.09	0.84	0.66	0.66
120 125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130 135	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	0.33
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145 150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150 155	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.19
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.19
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.19
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.19
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.19
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.19
230 235	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.19
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.19
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	186.53	87.12	40.69	19.00	8.88	4.15	1.94	0.90	0.42	0.20	0.20
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	182.86	89.80	44.10	21.66	10.64	5.22	2.57	1.26	0.62	0.30	0.30
FIRST HARMONIC											
AMPLITUDE	6798.94	3622.08	1956.92	1073.44	598.44	339.36	195.88	115.12	68.90	41.98	
PHASE	2.88	2.95	3.03	3.12	3.22	3.33	3.46	3.59	3.75	3.91	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	5738.09	3074.95	1669.69	919.47	513.90	291.73	168.30	98.72	58.90	35.75	
PHASE	2.92	2.98	3.05	3.13	3.21	3.30	3.40	3.51	3.62	3.74	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 50.00 GV											

LEEDS											
GEOGRAPHIC LATITUDE = 53.82 GEOGRAPHIC LONGITUDE = 358.45											
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25	291.32	153.03	80.39	42.23	22.18	11.65	6.12	3.22	1.69	0.89	0.49
25 30	71.23	39.53	21.94	12.17	6.76	3.75	2.08	1.15	0.64	0.36	0.20
30 35	363.40	194.44	104.18	55.90	30.04	16.17	8.72	4.71	2.55	1.38	0.75
35 40	143.10	81.41	46.36	26.43	15.08	8.62	4.93	2.82	1.62	0.93	0.53
40 45	440.00	246.15	138.19	77.86	44.04	25.00	14.25	8.16	4.69	2.71	1.48
45 50	797.62	483.31	293.55	178.70	109.03	66.68	40.86	25.10	15.45	9.53	5.65
50 55	814.40	473.12	276.27	162.18	95.72	56.81	33.90	20.35	12.28	7.45	4.25
55 60	480.77	267.86	150.55	85.45	49.02	28.45	16.71	9.94	5.98	3.65	2.15
60 65	141.22	87.61	54.98	34.89	22.37	14.49	9.47	6.24	4.14	2.77	1.65
65 70	192.08	108.39	62.09	36.16	21.44	12.94	7.96	4.98	3.17	2.04	1.27
70 75	27.40	19.48	13.85	9.85	7.00	4.98	3.54	2.52	1.79	1.27	0.85
75 80	42.33	30.18	21.54	15.38	10.99	7.86	5.63	4.03	2.89	2.07	1.48
80 85	27.55	20.13	14.71	10.75	7.86	5.75	4.21	3.08	2.26	1.65	1.15
85 90	21.41	15.58	11.35	8.26	6.02	4.39	3.20	2.33	1.70	1.24	0.85
90 95	15.41	11.53	8.63	6.46	4.84	3.62	2.72	2.04	1.53	1.15	0.85
95 100	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	0.25
100 105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105 110	9.40	7.32	5.70	4.43	3.45	2.69	2.09	1.63	1.27	0.99	0.75
110 115	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	0.25
115 120	6.27	4.88	3.80	2.96	2.30	1.79	1.39	1.09	0.84	0.66	0.50
120 125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130 135	3.13	2.44	1.90	1.48	1.15	0.90	0.70	0.54	0.42	0.33	0.25
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145 150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150 155	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.15
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.15
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.15
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.15
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.15
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.15
230 235	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.15
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19	0.15
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC											
AMPLITUDE	3775.99	2177.75	1266.87	743.83	441.07	264.29	160.10	98.10	60.81	38.15	
PHASE	3.27	3.31	3.37	3.43	3.51	3.59	3.69	3.80	3.93	4.07	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	3483.32	2003.84	1161.56	678.86	400.24	238.20	143.19	86.99	53.45	33.23	
PHASE	3.28	3.29	3.33	3.38	3.44	3.51	3.58	3.67	3.76	3.85	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV											

DULU											
GEOGRAPHIC LATITUDE = 65.00 GEOGRAPHIC LONGITUDE = 25.42											
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	9356.05	2874.02	884.93	273.14	84.52	26.22	8.15	2.54	0.79	0.25	
5 10	4740.96	1654.46	586.91	211.97	78.06	29.35	11.28	4.44	1.79	0.74	
10 15	2622.00	902.16	312.82	109.44	38.67	13.82	5.00	1.83	0.68	0.26	
15 20	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11	
20 25	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
25 30	2599.40	797.91	250.03	80.64	27.01	9.48	3.50	1.36	0.56	0.24	
30 35	6140.61	2043.29	683.01	229.38	77.40	26.24	8.94	3.06	1.05	0.36	
35 40	10675.51	3601.10	1237.48	434.91	157.02	58.51	22.60	9.07	3.79	1.64	
40 45	12494.08	4426.81	1607.46	599.26	229.69	90.60	36.80	15.40	6.63	2.94	
45 50	791.23	358.26	163.63	75.44	35.13	16.53	7.87	3.79	1.85	0.91	
50 55	1502.48	684.90	318.00	150.52	72.67	35.77	17.94	9.15	4.75	2.50	
55 60	520.34	292.05	166.61	96.44	56.55	33.53	20.06	12.10	7.35	4.48	
60 65	1457.33	803.97	451.35	257.33	148.72	86.99	51.42	30.69	18.47	11.20	
65 70	7617.18	2537.17	889.15	336.61	141.28	66.57	34.89	19.86	11.95	7.46	
70 75	3759.96	1598.45	705.20	325.91	159.17	82.64	45.67	26.74	16.46	10.54	
75 80	727.83	348.19	170.82	86.54	45.60	25.16	14.58	8.88	5.67	3.76	
80 85	776.78	350.40	197.82	101.34	52.68	27.94	15.22	8.57	5.03	3.09	
85 90	574.79	260.33	118.74	54.81	25.81	12.56	6.44	3.54	2.13	1.40	
90 95	2656.98	1018.88	392.41	152.07	59.52	23.70	9.74	4.24	2.03	1.10	
95 100	7086.35	2238.52	715.19	232.33	77.33	26.65	9.63	3.69	1.51	0.67	
100 105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
105 110	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30	
110 115	0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	
115 120	185.59	86.89	40.78	19.22	9.14	4.42	2.21	1.16	0.66	0.42	
120 125	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.07	
125 130	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
135 140	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08	
150 155	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
155 160	194.26	79.89	32.86	13.51	5.56	2.29	0.94	0.39	0.16	0.07	
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	651.46	262.03	105.39	42.39	17.05	6.85	2.76	1.11	0.45	0.18	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
225 230	1613.11	592.17	217.38	79.80	29.29	10.75	3.95	1.45	0.53	0.20	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	2232.59	739.98	245.26	81.29	26.94	8.93	2.96	0.98	0.33	0.11	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	2294.91	711.13	220.36	68.28	21.16	6.56	2.03	0.63	0.20	0.06	
265 270	2414.28	711.46	209.66	61.79	18.21	5.37	1.59	0.47	0.15	0.05	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	8554.89	2754.74	892.66	291.16	95.60	31.61	10.52	3.53	1.19	0.40	
345 350	1236.31	509.02	209.75	86.50	35.71	14.75	6.10	2.52	1.05	0.43	
350 355	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
355 360	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
FIRST HARMONIC											
AMPLITUDE	65596.15	23233.56	8598.30	3364.30	1407.44	634.26	308.30	160.85	89.30	52.23	
PHASE (IN HOURS)	0.61	0.78	1.00	1.25	1.52	1.80	2.06	2.28	2.46	2.61	
SECOND HARMONIC											
AMPLITUDE	41228.95	14800.40	5571.98	2234.83	969.27	457.99	234.85	129.08	74.94	45.41	
PHASE (IN HOURS)	1.05	1.17	1.33	1.53	1.76	1.99	2.21	2.39	2.54	2.67	
THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV											



DULU										
GEOGRAPHIC LATITUDE = 65.00 GEOGRAPHIC LONGITUDE = 25.42										
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	2446.05	943.32	366.55	143.69	56.90	22.80	9.25	3.81	1.59	0.68
10 15	389.40	162.18	67.56	28.14	11.73	4.89	2.04	0.85	0.35	0.15
15 20	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11
20 25	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14
25 30	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
30 35	1613.11	592.17	217.38	79.80	29.29	10.75	3.95	1.45	0.53	0.20
35 40	3733.74	1438.53	562.20	223.55	90.71	37.66	16.03	7.00	3.13	1.43
40 45	5552.30	2264.25	932.18	387.91	163.38	62.75	30.23	13.32	5.97	2.73
45 50	791.23	358.26	163.63	75.44	35.13	16.53	7.87	3.79	1.85	0.91
50 55	1502.48	684.90	318.00	150.52	72.67	35.77	17.94	9.15	4.75	2.50
55 60	520.34	292.05	166.61	96.44	56.55	33.53	20.06	12.10	7.35	4.48
60 65	1457.33	803.97	451.35	257.33	148.72	86.99	51.42	30.69	18.47	11.20
65 70	675.40	374.61	213.87	125.25	74.97	45.72	28.32	17.78	11.29	7.25
70 75	3759.96	1598.45	705.20	325.91	159.17	82.64	45.67	26.74	16.46	10.54
75 80	727.83	348.19	170.82	86.54	45.60	25.16	14.58	8.88	5.67	3.76
80 85	776.78	390.40	197.82	101.34	52.68	27.94	15.22	8.57	5.03	3.09
85 90	574.79	260.33	118.74	54.81	25.81	12.56	6.44	3.54	2.13	1.40
90 95	2656.98	1018.88	392.41	152.07	59.52	23.70	9.74	4.24	2.03	1.10
95 100	144.58	75.95	39.91	20.97	11.02	5.80	3.05	1.61	0.86	0.46
100 105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105 110	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30
110 115	0.08	0.07	0.07	0.06	0.05	0.05	0.05	0.04	0.04	0.04
115 120	185.59	86.89	40.78	19.22	9.14	4.42	2.21	1.16	0.66	0.42
120 125	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.07
125 130	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135 140	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145 150	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08
150 155	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
155 160	194.26	79.89	32.86	13.51	5.56	2.29	0.94	0.39	0.16	0.07
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	651.46	262.03	105.39	42.39	17.05	6.86	2.76	1.11	0.45	0.18
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
225 230	1613.11	592.17	217.38	79.80	29.29	10.75	3.95	1.45	0.53	0.20
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	1613.11	592.17	217.38	79.80	29.29	10.75	3.95	1.45	0.53	0.20
345 350	1236.31	509.02	209.75	86.50	35.71	14.75	6.10	2.52	1.05	0.43
350 355	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14
355 360	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
FIRST HARMONIC										
AMPLITUDE	25062.15	10767.43	4771.58	2192.39	1049.29	524.89	274.86	150.60	86.14	51.25
PHASE	1.60	1.71	1.82	1.95	2.08	2.21	2.33	2.45	2.57	2.67
(IN HOURS)										
SECOND HARMONIC										
AMPLITUDE	17694.98	7570.00	3370.83	1573.52	773.55	400.79	218.24	124.25	73.53	44.99
PHASE	1.45	1.58	1.73	1.89	2.05	2.21	2.35	2.48	2.59	2.70
(IN HOURS)										
THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV										



DULU										
GEOGRAPHIC LATITUDE = 65.00 GEOGRAPHIC LONGITUDE = 25.42										
ASY. LONG. BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	832.94	351.15	149.16	63.89	27.61	12.04	5.30	2.36	1.06	0.48
10 15	389.40	162.18	67.56	28.14	11.73	4.89	2.04	0.85	0.35	0.15
15 20	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11
20 25	189.21	84.89	33.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14
25 30	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
30 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35 40	507.52	254.19	127.43	63.95	32.12	16.15	8.13	4.10	2.07	1.04
40 45	3939.10	1672.08	714.80	308.10	134.08	58.99	26.28	11.87	5.44	2.54
45 50	791.23	358.26	163.63	75.44	35.13	16.53	7.87	3.79	1.85	0.91
50 55	1502.48	684.90	318.00	150.52	72.67	35.77	17.94	9.15	4.75	2.50
55 60	520.34	252.05	166.61	96.44	56.55	33.53	20.06	12.10	7.35	4.48
60 65	1457.33	803.97	451.35	257.33	148.72	86.99	51.42	30.69	18.47	11.20
65 70	675.40	374.61	213.87	125.25	74.97	45.72	28.32	17.78	11.29	7.25
70 75	2146.85	1006.28	487.82	246.11	129.88	71.89	41.72	25.29	15.92	10.34
75 80	727.83	348.19	170.82	86.54	45.60	25.16	14.58	8.88	5.67	3.76
80 85	776.78	350.40	197.82	101.34	52.68	27.94	15.22	8.57	5.03	3.09
85 90	574.79	260.33	118.74	54.81	25.81	12.55	6.44	3.54	2.13	1.40
90 95	1043.87	426.71	175.03	72.27	30.22	12.95	5.80	2.79	1.49	0.90
95 100	144.58	75.95	39.91	20.97	11.02	5.80	3.05	1.61	0.86	0.46
100 105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105 110	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30
110 115	0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04
115 120	185.59	86.89	40.78	19.22	9.14	4.42	2.21	1.16	0.66	0.42
120 125	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.07
125 130	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135 140	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145 150	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08
150 155	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
155 160	194.26	79.89	32.86	13.51	5.56	2.79	0.94	0.39	0.16	0.07
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	651.46	262.03	105.39	42.39	17.05	6.85	2.76	1.11	0.45	0.18
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	1236.31	509.02	209.75	86.50	35.71	14.75	6.10	2.52	1.05	0.43
350 355	189.21	84.89	38.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14
355 360	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
FIRST HARMONIC										
AMPLITUDE	15998.81	7462.96	3568.15	1754.63	890.23	467.15	253.91	143.00	83.38	50.26
PHASE (IN HOURS)	2.10	2.15	2.20	2.27	2.33	2.40	2.48	2.55	2.63	2.71
SECOND HARMONIC										
AMPLITUDE	9962.49	4803.75	2389.02	1227.82	652.66	358.73	203.64	119.19	71.78	44.39
PHASE (IN HOURS)	1.85	1.96	2.07	2.18	2.29	2.38	2.48	2.57	2.65	2.73
THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV										

GULU											
GEOGRAPHIC LATITUDE = 65.00 GEOGRAPHIC LONGITUDE = 25.42											
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30	
10 15	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08	
15 20	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11	
20 25	189.21	84.89	33.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
25 30	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
30 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
35 40	507.52	254.19	127.43	63.95	32.12	16.15	8.13	4.10	2.07	1.04	
40 45	1596.29	726.22	332.91	153.91	71.82	33.85	15.13	7.77	3.79	1.87	
45 50	596.97	278.37	130.78	61.93	29.57	14.25	6.93	3.41	1.69	0.85	
50 55	851.02	422.87	212.61	108.14	55.62	28.91	15.18	8.04	4.30	2.32	
55 60	520.34	292.05	166.61	96.44	56.55	33.53	20.06	12.10	7.35	4.48	
60 65	1263.07	724.08	418.49	243.81	143.16	84.70	50.48	30.30	18.31	11.14	
65 70	675.40	374.61	213.87	125.25	74.97	45.72	28.32	17.78	11.29	7.25	
70 75	1301.12	664.36	349.57	190.21	107.27	62.75	38.02	23.79	15.32	10.10	
75 80	727.83	348.19	170.82	86.54	45.60	25.16	14.58	8.88	5.67	3.76	
80 85	776.78	390.40	197.82	101.34	52.68	27.94	15.22	8.57	5.03	3.09	
85 90	574.79	260.33	118.74	54.81	25.81	12.56	5.44	3.54	2.13	1.40	
90 95	198.15	84.79	36.78	16.37	7.61	3.80	2.10	1.30	0.89	0.66	
95 100	144.58	75.95	39.91	20.97	11.02	5.80	3.05	1.61	0.86	0.46	
100 105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
105 110	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30	
110 115	0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	
115 120	185.59	86.89	40.78	19.22	9.14	4.42	2.21	1.16	0.66	0.42	
120 125	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.07	
125 130	189.21	84.89	33.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
135 140	195.45	84.81	36.80	15.97	6.93	3.01	1.30	0.57	0.25	0.11	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08	
150 155	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	390.59	167.10	71.50	30.50	13.10	5.61	2.40	1.03	0.44	0.19	
350 355	189.21	84.89	33.09	17.09	7.67	3.44	1.54	0.69	0.31	0.14	
355 360	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20	
FIRST HARMONIC											
AMPLITUDE	10660.11	5307.37	2697.97	1403.44	748.53	410.00	230.87	133.72	79.64	48.75	
PHASE (IN HOURS)	2.30	2.33	2.37	2.41	2.45	2.50	2.55	2.61	2.68	2.75	
SECOND HARMONIC											
AMPLITUDE	7154.58	3703.30	1958.95	1060.14	587.41	333.38	193.81	115.38	70.31	43.82	
PHASE (IN HOURS)	2.30	2.34	2.39	2.43	2.48	2.53	2.59	2.64	2.70	2.76	
THE UPPER LIMIT FOR THIS CALCULATION IS 80.00 GV											

DULU										
GEOGRAPHIC LATITUDE = 65.00 GEOGRAPHIC LONGITUDE = 25.42										
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
30 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35 40	507.52	254.19	127.43	63.95	32.12	16.15	8.13	4.10	2.07	1.04
40 45	436.69	222.23	113.73	58.53	30.28	15.75	8.24	4.33	2.28	1.21
45 50	401.82	196.08	96.08	47.29	23.40	11.65	5.83	2.94	1.50	0.77
50 55	466.37	253.17	137.72	75.08	41.02	22.46	12.33	6.79	3.74	2.07
55 60	520.34	292.05	166.61	96.44	56.55	33.53	20.06	12.10	7.35	4.48
60 65	1263.07	724.08	418.49	243.81	143.16	84.70	50.48	30.30	18.31	11.14
65 70	480.26	292.32	179.17	110.62	68.80	43.12	27.22	17.32	11.10	7.16
70 75	910.53	497.26	278.07	159.61	94.17	57.14	35.62	22.77	14.88	9.91
75 80	153.96	93.59	57.84	36.39	23.34	15.27	10.19	6.93	4.80	3.38
80 85	776.78	390.40	197.82	101.34	52.68	27.94	15.22	8.57	5.03	3.09
85 90	190.13	90.63	43.85	21.75	11.21	6.12	3.59	2.29	1.56	1.16
90 95	3.01	2.50	1.08	1.73	1.44	1.20	1.00	0.83	0.69	0.58
95 100	144.58	75.95	39.91	20.97	11.02	5.80	3.05	1.61	0.86	0.46
100 105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105 110	181.48	89.13	43.77	21.50	10.56	5.19	2.55	1.25	0.61	0.30
110 115	0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04
115 120	185.59	86.89	40.78	19.22	9.14	4.42	2.21	1.16	0.66	0.42
120 125	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.07
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135 140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145 150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150 155	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	185.12	86.46	40.38	18.86	8.81	4.11	1.92	0.90	0.42	0.20
FIRST HARMONIC										
AMPLITUDE	6615.42	3549.04	1933.18	1070.63	603.64	346.89	203.38	121.73	74.42	46.47
PHASE	2.44	2.46	2.48	2.51	2.54	2.58	2.62	2.66	2.72	2.78
(IN HOURS)										
SECOND HARMONIC										
AMPLITUDE	5268.09	2885.92	1604.74	906.64	520.90	304.57	181.34	109.99	67.98	42.82
PHASE	2.48	2.50	2.52	2.54	2.57	2.60	2.64	2.68	2.73	2.79
(IN HOURS)										
THE UPPER LIMIT FOR THIS CALCULATION IS 50.00 GV										



DULU											
GEOGRAPHIC LATITUDE = 65.00 GEOGRAPHIC LONGITUDE = 25.42											
ASY. LONG.	BETA	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30 35		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35 40		144.56	75.94	39.89	20.96	11.01	5.78	3.04	1.60	0.84	0.44
40 45		251.56	135.77	73.35	39.67	21.48	11.64	6.31	3.43	1.86	1.01
45 50		35.22	20.49	11.92	6.94	4.04	2.35	1.37	0.79	0.46	0.27
50 55		466.37	253.17	137.72	75.08	41.02	22.46	12.33	6.79	3.74	2.07
55 60		335.22	205.59	126.23	77.58	47.74	29.41	18.14	11.20	6.93	4.29
60 65		1081.60	634.96	374.72	222.32	132.60	79.52	47.94	29.05	17.70	10.83
65 70		480.26	292.32	179.17	110.52	68.80	43.12	27.22	17.32	11.10	7.16
70 75		543.94	321.68	193.92	119.25	74.81	47.84	31.15	20.62	13.84	9.41
75 80		153.96	93.59	57.84	36.39	23.34	15.27	10.19	6.93	4.80	3.38
80 85		228.70	125.69	69.89	39.48	22.76	13.46	8.20	5.17	3.38	2.29
85 90		5.01	4.17	3.47	2.89	2.41	2.00	1.67	1.39	1.16	0.96
90 95		3.01	2.50	2.08	1.73	1.44	1.20	1.00	0.83	0.69	0.58
95 100		144.58	75.95	39.91	20.97	11.02	5.80	3.05	1.61	0.86	0.46
100 105		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105 110		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110 115		0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04
115 120		0.46	0.43	0.39	0.36	0.34	0.31	0.29	0.26	0.24	0.22
120 125		0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.09	0.08	0.07
125 130		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130 135		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135 140		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140 145		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145 150		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150 155		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
155 160		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160 165		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165 170		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175 180		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
225 230		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245		0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
245 250		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
270 275		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
285 290		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
295 300		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC											
AMPLITUDE		3780.15	2160.58	1281.94	758.26	453.73	274.92	168.81	105.12	66.44	42.64
PHASE		2.55	2.57	2.58	2.60	2.62	2.65	2.68	2.72	2.77	2.82
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE		3513.19	2043.97	1200.63	712.62	427.73	259.33	159.85	99.68	63.03	40.44
PHASE		2.55	2.56	2.58	2.60	2.62	2.65	2.68	2.72	2.76	2.81
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV											

		PIC DU MINI									
		GEOGRAPHIC LATITUDE = 42.93					GEOGRAPHIC LONGITUDE = 0.25				
ASY. LONG. / BETA =		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	7792.34	2452.45	776.15	247.24	79.37	25.71	8.42	2.79	0.94	0.32
5	10	12758.09	4046.58	1289.04	412.71	132.94	43.13	14.12	4.67	1.56	0.53
10	15	15240.26	5224.41	1813.71	638.89	229.08	84.05	31.83	12.60	5.30	2.42
15	20	5083.30	2007.24	795.63	316.61	126.51	50.76	20.45	8.28	3.37	1.38
20	25	1823.90	763.81	320.38	134.60	56.64	23.87	10.08	4.26	1.81	0.77
25	30	9074.62	3038.81	1044.90	370.70	136.20	51.93	20.54	8.41	3.55	1.53
30	35	2613.23	1037.19	418.19	171.64	71.84	30.71	13.41	5.98	2.72	1.26
35	40	2036.64	870.99	376.12	164.15	72.46	32.37	14.64	6.70	3.11	1.46
40	45	1405.27	646.40	299.92	140.39	66.30	31.58	15.18	7.35	3.59	1.77
45	50	8375.99	2732.40	911.85	313.73	112.29	42.19	16.75	7.05	3.13	1.46
50	55	2837.23	1170.56	495.66	215.92	96.89	44.77	21.27	10.36	5.16	2.62
55	60	1753.71	763.94	337.42	151.44	69.22	32.28	15.38	7.49	3.73	1.90
60	65	1411.00	686.90	337.97	168.14	84.60	43.05	22.15	11.53	6.06	3.22
65	70	783.99	393.15	198.39	100.80	51.59	26.62	13.85	7.27	3.85	2.06
70	75	463.34	257.70	143.71	80.36	45.06	25.34	14.29	8.08	4.59	2.61
75	80	378.91	213.44	120.73	68.57	39.11	22.40	12.88	7.43	4.31	2.51
80	85	137.71	82.03	48.92	29.21	17.46	10.45	6.26	3.76	2.26	1.36
85	90	181.91	106.83	62.89	37.12	21.96	13.02	7.74	4.61	2.75	1.64
90	95	246.68	152.36	94.28	58.45	36.30	22.58	14.07	8.78	5.49	3.44
95	100	22.89	14.59	9.30	5.93	3.78	2.41	1.54	0.98	0.62	0.40
100	105	152.26	95.10	59.53	37.34	23.47	14.78	9.32	5.89	3.73	2.37
105	110	90.65	57.36	36.38	23.12	14.72	9.39	6.01	3.85	2.47	1.59
110	115	143.99	93.67	61.00	39.78	25.97	16.97	11.11	7.28	4.77	3.13
115	120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	125	57.96	37.74	24.58	16.02	10.44	6.81	4.44	2.90	1.89	1.24
125	130	52.76	35.61	24.04	16.23	10.96	7.40	5.00	3.38	2.28	1.54
130	135	17.69	11.53	7.51	4.90	3.19	2.08	1.36	0.88	0.58	0.38
135	140	35.39	24.00	16.28	11.05	7.50	5.09	3.45	2.35	1.59	1.08
140	145	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
145	150	35.35	24.72	17.29	12.09	8.46	5.92	4.15	2.90	2.04	1.43
150	155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	160	17.37	11.61	7.76	5.19	3.47	2.32	1.55	1.03	0.69	0.46
160	165	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	180	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
180	185	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
195	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	7572.77	2359.86	737.11	230.78	72.42	22.78	7.18	2.27	0.72	0.23
330	335	1805.53	662.81	243.31	89.32	32.79	12.04	4.42	1.62	0.60	0.22
335	340	950.49	384.30	155.39	62.84	25.41	10.28	4.16	1.68	0.68	0.28
340	345	5561.32	1735.36	548.19	175.90	57.55	19.27	6.63	2.35	0.86	0.32
345	350	7790.00	2457.33	780.84	250.40	81.23	26.73	8.95	3.06	1.08	0.39
350	355	1805.53	662.81	243.31	89.32	32.79	12.04	4.42	1.62	0.60	0.22
355	360	6214.04	2061.36	696.22	239.94	84.54	30.50	11.28	4.27	1.66	0.66
FIRST HARMONIC											
AMPLITUDE		96002.89	33102.70	11740.36	4314.43	1658.62	674.81	293.91	137.98	69.69	37.48
PHASE		0.81	0.98	1.21	1.53	1.94	2.45	3.06	3.71	4.35	4.93
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE		71132.66	23756.71	8045.19	2767.70	970.81	350.28	132.73	54.90	25.83	13.85
PHASE		0.71	0.84	1.02	1.25	1.56	1.97	2.52	3.22	3.99	4.73
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV											

# PIC DU MINI

GEOGRAPHIC LATITUDE = 42.93 GEOGRAPHIC LONGITUDE = 0.25  
 ASY. LONG. / BETA: +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2

0	5	219.58	92.59	39.04	16.46	6.94	2.93	1.23	0.52	0.22	0.09
5	10	218.30	94.73	41.11	17.84	7.74	3.36	1.46	0.63	0.27	0.12
10	15	7667.50	2864.55	1076.60	408.11	156.66	61.27	24.65	10.33	4.59	2.19
15	20	5083.30	2007.24	795.63	316.61	126.51	50.76	20.45	8.28	3.37	1.38
20	25	1823.90	763.81	320.38	134.60	56.64	23.87	10.08	4.26	1.81	0.77
25	30	1501.85	678.95	307.79	139.92	63.78	29.15	13.36	6.14	2.83	1.30
30	35	2613.23	1037.19	418.19	171.64	71.84	30.71	13.41	5.98	2.72	1.26
35	40	2036.64	870.99	376.12	164.15	72.46	32.37	14.64	6.70	3.11	1.46
40	45	1405.27	646.40	299.92	140.39	66.30	31.58	15.18	7.35	3.59	1.77
45	50	803.23	372.53	174.74	82.95	39.87	19.41	9.57	4.78	2.41	1.23
50	55	2837.23	1170.56	495.66	215.92	96.89	44.77	21.27	10.36	5.16	2.62
55	60	1753.71	763.94	337.42	151.44	69.22	32.28	15.38	7.49	3.73	1.90
60	65	1411.00	686.90	337.97	168.14	84.60	43.05	22.15	11.53	6.06	3.22
65	70	783.99	393.15	198.39	100.80	51.59	26.62	13.85	7.27	3.85	2.06
70	75	463.34	257.70	143.71	80.36	45.06	25.34	14.29	8.08	4.49	2.61
75	80	378.91	213.44	120.73	68.57	39.11	22.40	12.88	7.43	4.31	2.51
80	85	137.71	82.03	48.92	29.21	17.46	10.45	6.26	3.76	2.26	1.36
85	90	181.91	106.83	62.89	37.12	21.96	13.02	7.74	4.61	2.75	1.64
90	95	246.68	152.36	94.28	58.45	36.30	22.58	14.07	8.78	5.49	3.44
95	100	22.89	14.59	9.30	5.93	3.78	2.41	1.54	0.98	0.62	0.40
100	105	152.26	95.10	59.53	37.34	23.47	14.78	9.32	5.89	3.73	2.37
105	110	90.65	57.36	36.38	23.12	14.72	9.39	6.01	3.85	2.47	1.59
110	115	143.99	93.67	61.00	39.78	25.97	16.97	11.11	7.28	4.77	3.13
115	120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	125	57.96	37.74	24.58	16.02	10.44	6.81	4.44	2.90	1.89	1.24
125	130	52.76	35.61	24.04	16.23	10.96	7.40	5.00	3.38	2.28	1.54
130	135	17.69	11.53	7.51	4.90	3.19	2.08	1.36	0.88	0.58	0.38
135	140	35.39	24.00	16.28	11.05	7.50	5.09	3.45	2.35	1.59	1.08
140	145	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
145	150	35.35	24.72	17.29	12.09	8.46	5.92	4.15	2.90	2.04	1.43
150	155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	160	17.37	11.61	7.76	5.19	3.47	2.32	1.55	1.03	0.69	0.46
160	165	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	180	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
180	185	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
195	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	1805.53	662.81	243.31	89.32	32.79	12.04	4.42	1.62	0.60	0.22
335	340	950.49	384.30	155.39	62.84	25.41	10.28	4.16	1.68	0.68	0.28
340	345	437.88	187.32	80.15	34.30	14.68	6.29	2.69	1.15	0.49	0.21
345	350	217.23	97.47	43.71	19.62	8.80	3.95	1.77	0.80	0.36	0.16
350	355	1805.53	662.81	243.31	89.32	32.79	12.04	4.42	1.62	0.60	0.22
355	360	1158.97	481.67	200.87	84.08	35.33	14.91	6.32	2.69	1.15	0.50

## FIRST HARMONIC

AMPLITUDE 34163.8914065425 5910.92 2547.56 1132.39 522.31 251.39 126.70 66.87 36.83  
 PHASE 1.71 1.89 2.13 2.42 2.78 3.19 3.65 4.15 4.64 5.12

(IN HOURS)

## SECOND HARMONIC

AMPLITUDE 24509.36 9739.16 3908.87 1588.30 656.04 277.45 121.60 56.20 27.86 14.93  
 PHASE 1.61 1.75 1.94 2.16 2.45 2.80 3.23 3.74 4.31 4.88

(IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV



PIC DU MIDI											
GEOGRAPHIC LATITUDE = 42.93 GEOGRAPHIC LONGITUDE = 0.25											
ASY. LONG./BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	219.58	92.59	39.04	16.46	6.94	2.93	1.23	0.52	0.22	0.09	
5 10	218.30	94.73	41.11	17.84	7.74	3.36	1.46	0.63	0.27	0.12	
10 15	445.38	213.33	103.34	50.83	25.50	13.13	6.97	3.84	2.20	1.32	
15 20	3277.77	1344.43	552.31	227.29	93.72	38.72	16.04	6.66	2.77	1.16	
20 25	1823.90	763.81	320.38	134.60	56.64	23.87	10.08	4.26	1.81	0.77	
25 30	1501.85	678.95	307.79	139.92	63.78	29.15	13.36	6.14	2.83	1.30	
30 35	807.70	374.38	174.88	82.32	39.05	18.67	8.99	4.36	2.13	1.05	
35 40	2036.64	870.99	376.12	164.15	72.46	32.37	14.64	6.70	3.11	1.46	
40 45	1405.27	646.40	299.92	140.39	66.30	31.58	15.18	7.35	3.59	1.77	
45 50	803.23	372.53	174.74	82.95	39.87	19.41	9.57	4.78	2.41	1.23	
50 55	1031.70	507.75	252.34	126.60	64.10	32.73	16.85	8.74	4.57	2.40	
55 60	1753.71	763.94	337.42	151.44	69.22	32.28	15.38	7.49	3.73	1.90	
60 65	1411.00	686.90	337.97	168.14	84.60	43.05	22.15	11.53	6.06	3.22	
65 70	783.99	393.15	198.39	100.80	51.59	26.62	13.85	7.27	3.85	2.06	
70 75	463.34	257.70	143.71	80.36	45.06	25.34	14.29	8.08	4.59	2.61	
75 80	378.91	213.44	120.73	68.57	39.11	22.40	12.88	7.43	4.31	2.51	
80 85	137.71	82.03	48.92	29.21	17.46	10.45	6.26	3.76	2.26	1.36	
85 90	181.91	106.83	62.89	37.12	21.96	13.02	7.74	4.61	2.75	1.64	
90 95	246.68	152.36	94.28	58.45	36.30	22.58	14.07	8.78	5.49	3.44	
95 100	22.89	14.59	9.30	5.93	3.78	2.41	1.54	0.98	0.62	0.40	
100 105	152.26	95.10	59.53	37.34	23.47	14.78	9.32	5.89	3.73	2.37	
105 110	90.65	57.36	36.38	23.12	14.72	9.39	6.01	3.85	2.47	1.59	
110 115	143.99	93.67	61.00	39.78	25.97	16.97	11.11	7.28	4.77	3.13	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	57.96	37.74	24.58	16.02	10.44	6.81	4.44	2.90	1.89	1.24	
125 130	52.76	35.61	24.04	16.23	10.96	7.40	5.00	3.38	2.28	1.54	
130 135	17.67	11.53	7.51	4.90	3.19	2.08	1.36	0.88	0.58	0.38	
135 140	35.39	24.00	16.28	11.05	7.50	5.09	3.45	2.35	1.59	1.08	
140 145	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	
145 150	35.35	24.72	17.29	12.09	8.46	5.92	4.15	2.90	2.04	1.43	
150 155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
155 160	17.37	11.61	7.76	5.19	3.47	2.32	1.55	1.03	0.69	0.46	
160 165	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	
180 185	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	950.49	384.30	155.39	62.84	25.41	10.28	4.16	1.68	0.68	0.28	
340 345	437.88	187.32	80.15	34.30	14.68	6.29	2.69	1.15	0.49	0.21	
345 350	217.23	97.47	43.73	19.62	8.80	3.95	1.77	0.80	0.36	0.16	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	1158.97	481.67	200.87	84.08	35.33	14.91	6.32	2.69	1.15	0.50	
FIRST HARMONIC											
AMPLITUDE	19598.68	8806.47	4026.80	1880.03	899.59	442.84	224.99	118.22	64.25	36.05	
PHASE	2.35	2.54	2.76	3.03	3.34	3.69	4.08	4.48	4.89	5.29	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	13754.51	5989.33	2632.71	1170.77	528.48	243.37	115.17	56.53	29.06	15.74	
PHASE	2.27	2.42	2.59	2.80	3.06	3.36	3.72	4.12	4.57	5.04	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV											

PIC DU MIDI											
GEOGRAPHIC LATITUDE = 42.93 GEOGRAPHIC LONGITUDE = 0.25											
ASY. LONG./BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	219.58	92.59	39.04	16.46	6.94	2.93	1.23	0.52	0.22	0.09	
5 10	218.30	94.73	41.11	17.84	7.74	3.36	1.46	0.63	0.27	0.12	
10 15	445.38	213.33	103.34	50.83	25.50	13.13	6.97	3.84	2.20	1.32	
15 20	647.64	282.55	123.57	54.17	23.81	10.49	4.63	2.05	0.91	0.41	
20 25	873.42	379.51	164.98	71.76	31.23	13.59	5.92	2.58	1.13	0.49	
25 30	1280.53	587.93	270.36	124.53	57.45	26.55	12.29	5.70	2.65	1.23	
30 35	807.70	374.38	174.88	82.32	39.05	18.67	8.99	4.36	2.13	1.05	
35 40	578.30	284.43	140.20	69.26	34.29	17.02	8.46	4.22	2.11	1.06	
40 45	1183.95	555.38	262.49	124.99	59.97	28.98	14.10	6.91	3.41	1.69	
45 50	581.91	281.52	137.31	67.55	33.54	16.80	8.50	4.34	2.23	1.16	
50 55	1031.70	507.75	252.34	126.60	64.10	32.73	16.85	8.74	4.57	2.40	
55 60	803.22	379.64	182.02	88.60	43.81	22.00	11.22	5.81	3.05	1.62	
60 65	1411.00	686.90	337.97	168.14	84.60	43.05	22.15	11.53	6.06	3.22	
65 70	783.99	393.15	198.39	100.80	51.59	26.62	13.85	7.27	3.85	2.06	
70 75	463.34	257.70	143.71	80.36	45.06	25.34	14.29	8.08	4.59	2.61	
75 80	378.91	213.44	120.73	68.57	39.11	22.40	12.88	7.43	4.31	2.51	
80 85	137.71	82.03	48.92	29.21	17.46	10.45	6.26	3.76	2.26	1.36	
85 90	181.91	106.83	62.89	37.12	21.96	13.02	7.74	4.61	2.75	1.64	
90 95	246.68	152.36	94.28	58.45	36.30	22.58	14.07	8.78	5.49	3.44	
95 100	22.89	14.59	9.30	5.93	3.78	2.41	1.54	0.98	0.62	0.40	
100 105	152.26	95.10	59.53	37.34	23.47	14.73	9.32	5.89	3.73	2.37	
105 110	90.65	57.36	36.38	23.12	14.72	9.39	6.01	3.85	2.47	1.59	
110 115	143.99	93.67	61.00	39.78	25.97	16.97	11.11	7.28	4.77	3.13	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	57.96	37.74	24.58	16.02	10.44	6.81	4.44	2.90	1.89	1.24	
125 130	52.76	35.61	24.04	16.23	10.96	7.40	5.00	3.38	2.28	1.54	
130 135	17.69	11.53	7.51	4.90	3.19	2.08	1.36	0.88	0.58	0.38	
135 140	35.39	24.00	16.28	11.05	7.50	5.09	3.45	2.35	1.59	1.08	
140 145	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	
145 150	35.35	24.72	17.29	12.09	8.46	5.92	4.15	2.90	2.04	1.43	
150 155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
155 160	17.37	11.61	7.76	5.19	3.47	2.32	1.55	1.03	0.69	0.46	
160 165	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	
180 185	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	437.88	187.32	80.15	34.30	14.68	6.29	2.69	1.15	0.49	0.21	
345 350	217.23	97.47	43.73	19.62	8.80	3.95	1.77	0.80	0.36	0.16	
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
355 360	208.48	97.37	45.48	21.24	9.92	4.63	2.16	1.01	0.47	0.22	
FIRST HARMONIC											
AMPLITUDE	12060.53	5812.38	2845.56	1418.24	721.21	374.96	199.63	108.94	60.93	34.89	
PHASE	2.97	3.15	3.37	3.61	3.88	4.18	4.50	4.84	5.17	5.51	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	8444.07	3957.81	1872.85	896.21	434.66	214.33	107.89	55.73	29.69	16.38	
PHASE	2.88	3.02	3.19	3.39	3.62	3.88	4.17	4.50	4.86	5.24	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 80.00 GV											

PIC DU MIDI											
GEOGRAPHIC LATITUDE = 42.93 GEOGRAPHIC LONGITUDE = 0.25											
ASY. LONG. BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15	228.14	115.86	59.61	31.21	16.70	9.18	5.20	3.05	1.85	1.16	0.79
15 20	208.48	97.37	45.48	21.24	9.92	4.63	2.16	1.01	0.47	0.22	0.11
20 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30	627.77	298.27	141.80	67.45	32.10	15.29	7.29	3.47	1.66	0.79	0.40
30 35	369.82	187.06	94.73	48.02	24.37	12.38	6.30	3.21	1.64	0.83	0.40
35 40	578.30	284.43	140.20	69.26	34.29	17.02	8.46	4.22	2.11	1.06	0.51
40 45	528.84	270.59	138.61	71.07	36.48	18.74	9.64	4.96	2.56	1.32	0.62
45 50	364.68	184.05	93.58	47.93	24.73	12.85	6.73	3.54	1.88	1.00	0.51
50 55	812.12	415.16	213.30	110.14	57.15	29.80	15.62	8.22	4.35	2.31	1.22
55 60	365.34	192.32	101.87	54.30	29.12	15.72	8.53	4.66	2.56	1.41	0.72
60 65	758.24	397.24	209.40	111.06	59.25	31.79	17.15	9.30	5.07	2.78	1.43
65 70	783.99	393.15	198.39	100.80	51.59	26.62	13.85	7.27	3.85	2.06	1.11
70 75	463.34	257.70	143.71	80.36	45.06	25.34	14.29	8.08	4.59	2.61	1.32
75 80	378.91	213.44	120.73	68.57	39.11	22.40	12.88	7.43	4.31	2.51	1.32
80 85	137.71	82.03	48.92	29.21	17.46	10.45	6.26	3.76	2.26	1.36	0.72
85 90	181.91	106.83	62.89	37.12	21.96	13.02	7.74	4.61	2.75	1.64	0.83
90 95	246.68	152.36	94.28	58.45	36.30	22.58	14.07	8.78	5.49	3.44	1.83
95 100	22.89	14.59	9.30	5.93	3.78	2.41	1.54	0.98	0.62	0.40	0.21
100 105	152.26	95.10	59.53	37.34	23.47	14.78	9.32	5.89	3.73	2.37	1.22
105 110	90.65	57.36	36.38	23.12	14.72	9.39	6.01	3.85	2.47	1.59	0.83
110 115	143.99	93.67	61.00	39.78	25.97	16.97	11.11	7.28	4.77	3.13	1.64
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120 125	57.96	37.74	24.58	16.02	10.44	6.81	4.44	2.90	1.89	1.24	0.62
125 130	52.76	35.61	24.04	16.23	10.96	7.40	5.00	3.38	2.28	1.54	0.72
130 135	17.69	11.53	7.51	4.90	3.19	2.08	1.36	0.88	0.58	0.38	0.21
135 140	35.39	24.00	16.28	11.05	7.50	5.09	3.45	2.35	1.59	1.08	0.51
140 145	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	0.32
145 150	35.35	24.72	17.29	12.09	8.46	5.92	4.15	2.90	2.04	1.43	0.72
150 155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155 160	17.37	11.61	7.76	5.19	3.47	2.32	1.55	1.03	0.69	0.46	0.21
160 165	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	0.32
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175 180	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	0.32
180 185	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62	0.32
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81	0.40
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81	0.40
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	208.48	97.37	45.48	21.24	9.92	4.63	2.16	1.01	0.47	0.22	0.11
FIRST HARMONIC											
AMPLITUDE	6978.15	3644.42	1925.37	1030.14	558.81	307.65	172.03	97.76	56.46	33.13	19.79
PHASE	3.78	3.94	4.12	4.32	4.53	4.77	5.01	5.27	5.53	5.79	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	5060.44	2571.67	1315.93	678.72	353.33	185.99	99.23	53.81	29.76	16.83	9.89
PHASE	3.63	3.75	3.90	4.06	4.24	4.45	4.68	4.94	5.22	5.51	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 50.00 GV											



		PIC DU MIDI									
		GEOGRAPHIC LATITUDE = 42.93					GEOGRAPHIC LONGITUDE = 0.25				
ASY. LONG. / BETA =		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	15	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
15	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	35	159.02	83.53	43.88	23.05	12.11	6.36	3.34	1.76	0.92	0.48
35	40	159.02	83.53	43.88	23.05	12.11	6.36	3.34	1.76	0.92	0.48
40	45	318.03	167.06	87.76	46.10	24.22	12.72	6.68	3.51	1.84	0.97
45	50	159.02	83.53	43.88	23.05	12.11	6.36	3.34	1.76	0.92	0.48
50	55	392.84	214.26	116.98	63.93	34.97	19.15	10.49	5.76	3.16	1.74
55	60	154.53	88.79	51.03	29.33	16.86	9.69	5.57	3.21	1.84	1.06
60	65	549.76	299.87	163.93	89.82	49.33	27.16	14.99	8.29	4.60	2.56
65	70	153.90	88.72	51.22	29.61	17.15	9.94	5.77	3.36	1.95	1.14
70	75	463.34	257.70	143.71	80.36	45.06	25.34	14.29	8.08	4.59	2.61
75	80	378.91	213.44	120.73	68.57	37.11	22.40	12.88	7.43	4.31	2.51
80	85	137.71	82.03	48.92	29.21	17.46	10.45	6.26	3.76	2.26	1.36
85	90	181.91	106.83	62.89	37.12	21.96	13.02	7.74	4.61	2.75	1.64
90	95	246.68	152.36	94.28	58.45	36.30	22.58	14.07	8.78	5.49	3.44
95	100	22.89	14.59	9.30	5.93	3.78	2.41	1.54	0.98	0.62	0.40
100	105	152.26	95.10	59.53	37.34	23.47	14.78	9.32	5.89	3.73	2.37
105	110	90.65	57.36	36.38	23.12	14.72	9.39	6.01	3.85	2.47	1.59
110	115	143.99	93.67	61.00	39.78	25.97	16.97	11.11	7.28	4.77	3.13
115	120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	125	57.96	37.74	24.58	16.02	10.44	6.81	4.44	2.90	1.89	1.24
125	130	52.76	35.61	24.04	16.23	10.96	7.40	5.00	3.38	2.28	1.54
130	135	17.69	11.53	7.51	4.90	3.19	2.08	1.36	0.88	0.58	0.38
135	140	35.39	24.00	16.28	11.05	7.50	5.09	3.45	2.35	1.59	1.08
140	145	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
145	150	35.35	24.72	17.29	12.09	8.46	5.92	4.15	2.90	2.04	1.43
150	155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155	160	17.37	11.61	7.76	5.19	3.47	2.32	1.55	1.03	0.69	0.46
160	165	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	180	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
180	185	18.01	12.39	8.52	5.86	4.03	2.77	1.91	1.31	0.90	0.62
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
195	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345	350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350	355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355	360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC											
AMPLITUDE		3685.34	2092.78	1196.45	688.99	399.83	233.93	138.03	82.17	49.35	29.91
PHASE		4.79	4.91	5.05	5.19	5.35	5.51	5.69	5.86	6.05	6.23
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE		2738.89	1515.84	842.40	470.38	264.11	149.27	85.03	48.88	28.40	16.71
PHASE		4.58	4.68	4.79	4.92	5.06	5.21	5.38	5.57	5.76	5.98
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV											

ROME											
GEOGRAPHIC LATITUDE =			41.90			GEOGRAPHIC LONGITUDE =			12.52		
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	4973.82	1685.20	577.64	200.51	70.56	25.19	9.13	3.36	1.26	0.48	
5 10	790.84	318.08	127.94	51.46	20.70	8.32	3.35	1.35	0.54	0.22	
10 15	9124.39	2927.08	950.78	313.64	105.43	36.24	12.78	4.64	1.74	0.67	
15 20	14305.25	4490.15	1416.67	449.65	143.72	46.32	15.08	4.96	1.66	0.56	
20 25	18289.54	6035.79	2012.16	678.75	232.14	80.69	28.59	10.35	3.84	1.47	
25 30	6890.26	2579.63	968.64	364.98	138.08	52.48	20.06	7.71	2.99	1.17	
30 35	3000.19	1229.87	504.46	207.04	85.03	34.94	14.37	5.91	2.43	1.00	
35 40	8359.19	2867.08	1015.95	372.77	141.67	55.67	22.55	9.37	3.98	1.72	
40 45	3797.35	1406.59	536.68	211.62	86.38	36.48	15.91	7.14	3.28	1.54	
45 50	2640.53	1034.97	410.72	165.25	67.48	27.99	11.80	5.05	2.20	0.97	
50 55	2635.06	1120.47	480.97	208.70	91.66	40.80	18.42	8.44	3.93	1.85	
55 60	4339.92	1519.62	562.32	220.63	91.58	39.94	18.14	8.50	4.08	1.99	
60 65	8045.89	2757.93	960.90	341.83	124.85	47.12	18.49	7.59	3.27	1.48	
65 70	2138.49	971.74	448.72	210.69	100.60	48.83	24.09	12.06	6.12	3.15	
70 75	1283.00	598.79	282.51	134.85	65.16	31.88	15.80	7.93	4.03	2.07	
75 80	797.05	402.32	204.84	105.24	54.58	28.57	15.10	8.05	4.33	2.35	
80 85	787.18	406.53	210.84	109.84	57.50	30.25	15.99	8.50	4.54	2.44	
85 90	336.57	192.62	110.40	63.37	36.44	20.98	12.10	6.99	4.05	2.35	
90 95	348.91	192.53	106.52	59.09	32.86	18.33	10.25	5.74	3.23	1.82	
95 100	120.86	72.36	43.35	25.99	15.59	9.36	5.62	3.38	2.03	1.22	
100 105	187.50	113.19	68.39	41.36	25.03	15.17	9.20	5.58	3.39	2.06	
105 110	121.41	69.66	40.07	23.11	13.37	7.75	4.51	2.63	1.54	0.90	
110 115	206.02	125.29	76.32	46.56	28.45	17.41	10.67	6.55	4.03	2.48	
115 120	71.67	45.55	28.97	18.43	11.74	7.48	4.77	3.04	1.94	1.24	
120 125	91.01	55.64	34.08	20.92	12.87	7.93	4.90	3.03	1.88	1.17	
125 130	101.88	64.55	40.91	25.94	16.45	10.44	6.62	4.21	2.67	1.70	
130 135	93.61	59.30	37.67	23.99	15.31	9.80	6.29	4.04	2.61	1.68	
135 140	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38	
140 145	95.80	60.93	38.77	24.68	15.72	10.02	6.39	4.08	2.60	1.66	
145 150	33.06	22.09	14.77	9.87	6.60	4.41	2.95	1.97	1.32	0.88	
150 155	44.57	29.44	19.47	12.90	8.56	5.69	3.78	2.52	1.68	1.12	
155 160	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38	
160 165	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	34.57	22.81	15.05	9.93	6.55	4.33	2.86	1.89	1.25	0.82	
175 180	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44	
180 185	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14	
195 200	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	2930.80	863.66	254.51	75.00	22.10	6.51	1.92	0.57	0.17	0.05	
340 345	5496.14	1761.58	565.25	181.58	58.40	18.80	6.06	1.96	0.63	0.20	
345 350	1958.23	718.86	263.89	96.87	35.56	13.05	4.79	1.76	0.65	0.24	
350 355	1263.55	514.96	209.95	85.62	34.93	14.26	5.82	2.38	0.97	0.40	
355 360	11595.00	3591.86	1118.94	350.96	111.01	35.48	11.48	3.77	1.26	0.43	
FIRST HARMONIC											
AMPLITUDE	105684.47	36287.14	12793.00	4660.38	1768.70	706.41	300.16	136.80	66.97	34.97	
PHASE	0.80	0.97	1.19	1.49	1.89	2.39	2.99	3.66	4.34	5.00	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	79053.14	26357.18	8914.14	3064.38	1074.51	387.07	145.37	58.42	25.92	12.85	
PHASE	0.70	0.82	0.98	1.20	1.48	1.85	2.32	2.92	3.60	4.30	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV											

Rome											
GEOGRAPHIC LATITUDE = 41.90 GEOGRAPHIC LONGITUDE = 12.52											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	2187.92	821.92	310.13	117.62	44.87	17.23	6.67	2.60	1.02	0.41	
5 10	790.84	318.08	127.94	51.46	20.70	8.32	3.35	1.35	0.54	0.22	
10 15	697.45	301.84	131.03	57.06	24.93	10.93	4.81	2.12	0.94	0.42	
15 20	237.26	102.96	44.68	19.39	8.41	3.65	1.58	0.69	0.30	0.13	
20 25	4366.45	1648.97	627.16	240.59	93.25	36.58	14.55	5.88	2.41	1.01	
25 30	6890.26	2579.63	968.64	364.98	138.08	52.48	20.06	7.71	2.99	1.17	
30 35	3000.19	1229.87	504.46	207.04	85.03	34.94	14.37	5.91	2.43	1.00	
35 40	2642.49	1140.14	493.93	214.88	93.88	41.20	18.16	8.04	3.58	1.60	
40 45	1087.11	508.29	238.94	112.94	53.67	25.64	12.32	5.95	2.89	1.41	
45 50	2640.53	1034.97	410.72	165.25	67.48	27.99	11.80	5.05	2.20	0.97	
50 55	2635.06	1120.47	480.97	208.70	91.66	40.80	18.42	8.44	3.93	1.85	
55 60	1409.12	655.96	307.81	145.63	69.48	33.43	16.22	7.93	3.91	1.94	
60 65	2549.75	996.35	395.66	160.25	66.45	28.32	12.43	5.64	2.64	1.27	
65 70	2138.49	971.74	448.72	210.69	100.60	48.83	24.09	12.06	6.12	3.15	
70 75	1283.00	598.79	282.51	134.85	65.16	31.88	15.80	7.93	4.03	2.07	
75 80	797.05	402.32	204.84	105.24	54.58	28.57	15.10	8.05	4.33	2.35	
80 85	787.18	406.53	210.84	109.84	57.50	30.25	15.99	8.50	4.54	2.44	
85 90	336.57	192.62	110.40	63.37	36.44	20.98	12.10	6.99	4.05	2.35	
90 95	348.91	192.53	106.52	59.09	32.86	18.33	10.25	5.74	3.23	1.82	
95 100	120.86	72.36	43.35	25.99	15.59	9.36	5.62	3.38	2.03	1.22	
100 105	187.50	113.19	68.39	41.36	25.03	15.17	9.20	5.58	3.39	2.06	
105 110	121.41	69.66	40.07	23.11	13.37	7.75	4.51	2.63	1.54	0.90	
110 115	206.02	125.29	76.32	46.56	28.45	17.41	10.67	6.55	4.03	2.48	
115 120	71.67	45.55	28.97	18.43	11.74	7.48	4.77	3.04	1.94	1.24	
120 125	91.01	55.64	34.08	20.92	12.87	7.93	4.90	3.03	1.88	1.17	
125 130	101.88	64.55	40.91	25.94	16.45	10.44	6.62	4.21	2.67	1.70	
130 135	93.61	59.30	37.67	23.99	15.31	9.80	6.29	4.04	2.61	1.68	
135 140	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38	
140 145	95.80	60.93	38.77	24.68	15.72	10.02	6.39	4.08	2.60	1.66	
145 150	33.06	22.09	14.77	9.87	6.60	4.41	2.95	1.97	1.32	0.88	
150 155	44.57	29.44	19.47	12.90	8.56	5.69	3.78	2.52	1.68	1.12	
155 160	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38	
160 165	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	34.57	22.81	15.05	9.93	6.55	4.33	2.86	1.89	1.25	0.82	
175 180	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44	
180 185	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14	
195 200	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	1958.23	718.86	263.89	96.87	35.56	13.05	4.79	1.76	0.65	0.24	
350 355	1263.55	514.96	209.95	85.62	34.93	14.26	5.82	2.38	0.97	0.40	
355 360	237.26	102.96	44.68	19.39	8.41	3.65	1.58	0.69	0.30	0.13	
FIRST HARMONIC											
AMPLITUDE	36702.82	15045.22	6283.39	2684.12	1178.46	534.72	252.13	124.08	63.84	34.28	
PHASE (IN HOURS)	1.70	1.88	2.12	2.40	2.75	3.17	3.64	4.15	4.69	5.22	
SECOND HARMONIC											
AMPLITUDE	26525.77	10526.42	4217.22	1709.08	702.89	294.95	127.37	57.29	27.20	13.75	
PHASE (IN HOURS)	1.59	1.72	1.89	2.10	2.35	2.66	3.04	3.48	3.98	4.50	
THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV											



ROME											
GEOGRAPHIC LATITUDE = 41.90 GEOGRAPHIC LONGITUDE = 12.52											
ASY. LONG./BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	229.69	103.05	46.24	20.75	9.31	4.18	1.87	0.84	0.38	0.17	
5 10	790.84	318.08	127.94	51.46	20.70	8.32	3.35	1.35	0.54	0.22	
10 15	697.45	301.84	131.03	57.06	24.93	10.93	4.31	2.12	0.94	0.42	
15 20	237.26	102.96	44.68	19.39	8.41	3.65	1.58	0.69	0.30	0.13	
20 25	449.99	211.25	99.37	46.84	22.12	10.47	4.97	2.36	1.12	0.54	
25 30	1015.57	423.04	176.96	74.35	31.39	13.32	5.68	2.44	1.05	0.46	
30 35	3000.19	1229.87	504.46	207.04	85.03	34.94	14.37	5.91	2.43	1.00	
35 40	2642.49	1140.14	493.93	214.88	93.88	41.20	18.16	8.04	3.58	1.60	
40 45	1087.11	508.29	238.94	112.94	53.67	25.64	12.32	5.95	2.89	1.41	
45 50	682.30	316.11	146.83	68.38	31.92	14.94	7.01	3.29	1.55	0.73	
50 55	2635.06	1120.47	480.97	208.70	91.66	40.80	18.42	8.44	3.93	1.85	
55 60	1409.12	655.96	307.81	145.63	69.48	33.43	16.22	7.93	3.91	1.94	
60 65	591.52	277.49	131.76	63.38	30.89	15.26	7.64	3.88	1.99	1.03	
65 70	2138.49	971.74	448.72	210.69	100.60	48.83	24.09	12.06	6.12	3.15	
70 75	1283.00	598.79	282.51	134.85	65.16	31.88	15.80	7.93	4.03	2.07	
75 80	797.05	402.32	204.84	105.24	54.58	28.57	15.10	8.05	4.33	2.35	
80 85	787.18	406.53	210.84	109.84	57.50	30.25	15.99	8.50	4.54	2.44	
85 90	336.57	192.62	110.40	63.37	36.44	20.98	12.10	6.99	4.05	2.35	
90 95	348.91	192.53	106.52	59.09	32.86	18.33	10.25	5.74	3.23	1.82	
95 100	120.86	72.36	43.35	25.99	15.59	9.36	5.62	3.38	2.03	1.22	
100 105	187.50	113.19	68.39	41.36	25.03	15.17	9.20	5.58	3.39	2.06	
105 110	121.41	69.66	40.07	23.11	13.37	7.75	4.51	2.63	1.54	0.90	
110 115	206.02	125.29	76.32	46.56	28.45	17.41	10.67	6.55	4.03	2.48	
115 120	71.67	45.55	28.97	18.43	11.74	7.48	4.77	3.04	1.94	1.24	
120 125	91.01	55.64	34.08	20.92	12.87	7.93	4.90	3.03	1.88	1.17	
125 130	101.88	64.55	40.91	25.94	16.45	10.44	6.62	4.21	2.67	1.70	
130 135	93.61	59.30	37.67	23.99	15.31	9.80	6.29	4.04	2.61	1.68	
135 140	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38	
140 145	95.80	60.93	38.77	24.68	15.72	10.02	6.39	4.08	2.60	1.66	
145 150	33.06	22.09	14.77	9.87	6.60	4.41	2.95	1.97	1.32	0.88	
150 155	44.57	29.44	19.47	12.90	8.56	5.69	3.78	2.52	1.68	1.12	
155 160	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38	
160 165	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	34.57	22.81	15.05	9.93	6.55	4.33	2.86	1.89	1.25	0.82	
175 180	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44	
180 185	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14	
195 200	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	1263.55	514.96	209.95	85.62	34.93	14.26	5.82	2.38	0.97	0.40	
355 360	237.26	102.96	44.68	19.39	8.41	3.65	1.58	0.69	0.30	0.13	
FIRST HARMONIC											
AMPLITUDE	20892.82	9336.41	4237.53	1959.03	925.52	448.42	223.55	114.97	61.08	33.50	
PHASE	2.36	2.55	2.77	3.03	3.34	3.70	4.10	4.53	4.98	5.43	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	14802.23	6420.28	2808.11	1240.74	555.24	252.61	117.45	56.18	27.84	14.38	
PHASE	2.25	2.38	2.54	2.73	2.96	3.22	3.54	3.89	4.29	4.71	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV											

ROME											
GEOGRAPHIC LATITUDE = 41.90 GEOGRAPHIC LONGITUDE = 12.52											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	229.69	103.05	46.24	20.75	9.31	4.18	1.87	0.84	0.38	0.17	
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10 15	461.62	204.85	91.14	40.66	18.18	8.15	3.66	1.65	0.75	0.34	
15 20	237.26	102.96	44.68	19.39	8.41	3.65	1.58	0.69	0.30	0.13	
20 25	449.99	211.25	99.37	46.84	22.12	10.47	4.97	2.36	1.12	0.54	
25 30	224.73	104.96	49.02	22.89	10.69	4.99	2.33	1.09	0.51	0.24	
30 35	711.05	302.74	128.92	54.91	23.39	9.97	4.25	1.81	0.77	0.33	
35 40	1615.83	725.07	326.11	147.02	66.44	30.10	13.67	6.23	2.84	1.30	
40 45	1087.11	508.29	238.94	112.94	53.67	25.64	12.32	5.95	2.89	1.41	
45 50	682.30	316.11	146.83	68.38	31.92	14.94	7.01	3.29	1.55	0.73	
50 55	817.57	387.32	185.21	89.39	43.52	21.37	10.58	5.28	2.65	1.34	
55 60	1173.30	558.97	267.92	129.23	62.73	30.65	15.08	7.46	3.72	1.87	
60 65	591.52	277.49	131.76	63.38	30.89	15.26	7.64	3.88	1.99	1.03	
65 70	1111.83	556.67	280.90	142.82	73.15	37.74	19.60	10.24	5.39	2.85	
70 75	1283.00	598.79	282.51	134.85	65.16	31.88	15.80	7.93	4.03	2.07	
75 80	797.05	402.32	204.84	105.24	54.58	28.57	15.10	8.05	4.33	2.35	
80 85	787.18	406.53	210.84	109.84	57.50	30.25	15.99	8.50	4.54	2.44	
85 90	336.57	192.62	110.40	63.37	36.44	20.98	12.10	6.99	4.05	2.35	
90 95	348.91	192.53	106.52	59.09	32.86	18.33	10.25	5.74	3.23	1.82	
95 100	120.86	72.36	43.35	25.99	15.59	9.36	5.62	3.38	2.03	1.22	
100 105	187.50	113.19	68.39	41.36	25.03	15.17	9.20	5.58	3.39	2.06	
105 110	121.41	69.66	40.07	23.11	13.37	7.75	4.51	2.63	1.54	0.90	
110 115	206.02	125.29	76.32	46.56	28.45	17.41	10.67	6.55	4.03	2.48	
115 120	71.67	45.55	28.97	18.43	11.74	7.48	4.77	3.04	1.94	1.24	
120 125	91.01	55.64	34.08	20.92	12.87	7.93	4.90	3.03	1.88	1.17	
125 130	101.88	64.55	40.91	25.94	16.45	10.44	6.62	4.21	2.67	1.70	
130 135	93.61	59.30	37.67	23.99	15.31	9.80	6.29	4.04	2.61	1.68	
135 140	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38	
140 145	95.80	60.93	38.77	24.68	15.72	10.02	6.39	4.08	2.60	1.66	
145 150	33.06	22.09	14.77	9.87	6.60	4.41	2.95	1.97	1.32	0.88	
150 155	44.57	29.44	19.47	12.90	8.56	5.69	3.78	2.52	1.68	1.12	
155 160	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38	
160 165	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44	
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
170 175	34.57	22.81	15.05	9.93	6.55	4.33	2.86	1.89	1.25	0.82	
175 180	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44	
180 185	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14	
195 200	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
350 355	236.89	99.89	42.12	17.76	7.49	3.16	1.33	0.56	0.24	0.10	
355 360	237.26	102.96	44.68	19.39	8.41	3.65	1.58	0.69	0.30	0.13	
FIRST HARMONIC											
AMPLITUDE	12697.71	6079.63	2951.90	1456.17	731.26	374.57	196.05	104.99	57.56	32.30	
PHASE	2.97	3.16	3.38	3.63	3.91	4.23	4.57	4.93	5.30	5.68	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	8843.07	4118.75	1934.82	917.94	440.61	214.46	106.15	53.61	27.72	14.72	
PHASE	2.83	2.97	3.13	3.31	3.51	3.75	4.01	4.31	4.63	4.97	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 40.00 GV											

# ROME

GEOGRAPHIC LATITUDE = 41.90 GEOGRAPHIC LONGITUDE = 12.52

ASY.LONG./BETA= +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2

0	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	15	224.73	104.96	49.02	22.89	10.69	4.99	2.33	1.09	0.51	0.24
15	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	25	220.30	108.19	53.14	26.10	12.82	6.29	3.09	1.52	0.75	0.37
25	30	224.73	104.96	49.02	22.89	10.69	4.99	2.33	1.09	0.51	0.24
30	35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	40	445.03	213.15	102.16	48.99	23.51	11.29	5.42	2.61	1.25	0.60
40	45	620.52	305.34	150.58	74.43	36.87	18.31	9.11	4.54	2.27	1.14
45	50	445.03	213.15	102.16	48.99	23.51	11.29	5.42	2.61	1.25	0.60
50	55	350.98	184.37	96.85	50.88	26.73	14.04	7.37	3.87	2.04	1.07
55	60	706.34	352.96	177.01	89.10	45.01	22.82	11.62	5.94	3.04	1.57
60	65	354.62	177.59	89.64	45.61	23.40	12.10	6.31	3.32	1.75	0.93
65	70	874.57	453.71	236.22	123.44	64.74	34.09	18.01	9.56	5.09	2.72
70	75	249.46	189.83	103.24	56.21	30.64	16.72	9.14	5.00	2.74	1.50
75	80	797.05	402.32	204.84	105.24	54.58	28.57	15.10	8.05	4.33	2.35
80	85	787.18	406.53	210.84	109.84	57.50	30.25	15.99	8.50	4.54	2.44
85	90	336.57	192.62	110.40	63.37	36.44	20.98	12.10	6.99	4.05	2.35
90	95	348.91	192.53	106.52	59.09	32.86	18.33	10.25	5.74	3.23	1.82
95	100	120.86	72.36	43.35	25.99	15.59	9.36	5.02	3.38	2.03	1.22
100	105	187.50	113.19	68.39	41.36	25.03	15.17	9.20	5.58	3.39	2.06
105	110	121.41	69.66	40.07	23.11	13.37	7.75	4.51	2.63	1.54	0.90
110	115	206.02	125.29	76.32	46.56	28.45	17.41	10.67	6.55	4.03	2.48
115	120	71.67	45.55	28.97	18.43	11.74	7.48	4.77	3.04	1.94	1.24
120	125	91.01	55.64	34.08	20.92	12.87	7.93	4.90	3.03	1.88	1.17
125	130	101.88	64.55	40.91	25.94	16.45	10.44	6.62	4.21	2.67	1.70
130	135	93.61	59.30	37.67	23.99	15.31	9.80	6.29	4.04	2.61	1.68
135	140	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38
140	145	95.80	60.93	38.77	24.68	15.72	10.02	6.39	4.08	2.60	1.66
145	150	33.06	22.09	14.77	9.87	6.60	4.41	2.95	1.97	1.32	0.88
150	155	44.57	29.44	19.47	12.90	8.56	5.69	3.78	2.52	1.68	1.12
155	160	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38
160	165	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44
165	170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	175	34.57	22.81	15.05	9.93	6.55	4.33	2.86	1.89	1.25	0.82
175	180	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44
180	185	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70
185	190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	195	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
195	200	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70
200	205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	250	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
250	255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345	350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350	355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355	360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

FIRST HARMONIC

AMPLITUDE 7242.19 3756.07 1967.67 1042.23 558.74 303.48 167.16 93.44 53.03 30.57  
PHASE 3.81 4.00 4.19 4.40 4.63 4.88 5.15 5.43 5.72 6.02

3D MODEL

SECOND HARMONIC  
AMPLITUDE 4114.46 2564.38 1313.80 672.40 346.78 180.43 94.84 50.45 27.21 14.91  
PHASE 3.81 3.73 3.87 4.02 4.19 4.37 4.58 4.80 5.04 5.31

3D MODEL

3D MODEL LIMIT FOR THIS CALCULATION IS 50.00 GV



ROME										
GEOGRAPHIC LATITUDE = 41.90 GEOGRAPHIC LONGITUDE = 12.52										
ASY.LONG./BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35 40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40 45	175.49	92.19	48.43	25.44	13.36	7.02	3.69	1.94	1.02	0.53
45 50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50 55	350.98	184.37	96.85	50.88	26.73	14.04	7.37	3.87	2.04	1.07
55 60	261.31	139.81	74.85	40.10	21.50	11.54	6.19	3.33	1.79	0.96
60 65	129.89	72.63	40.62	22.72	12.71	7.11	3.98	2.23	1.25	0.70
65 70	433.96	237.32	129.95	71.25	39.11	21.50	11.83	6.52	3.60	1.99
70 75	349.46	189.83	103.24	56.21	30.64	16.72	9.14	5.00	2.74	1.50
75 80	347.59	192.40	106.80	59.46	33.19	18.58	10.43	5.87	3.32	1.88
80 85	346.58	190.14	104.57	57.65	31.86	17.66	9.81	5.47	3.05	1.71
85 90	336.57	192.62	110.40	63.37	36.44	20.98	12.10	6.99	4.05	2.35
90 95	348.91	192.53	106.52	59.09	32.86	18.33	10.25	5.74	3.23	1.82
95 100	120.86	72.36	43.35	25.99	15.59	9.36	5.62	3.38	2.03	1.22
100 105	187.50	113.19	68.39	41.36	25.03	15.17	9.20	5.58	3.39	2.06
105 110	121.41	69.66	40.07	23.11	13.37	7.75	4.51	2.63	1.54	0.90
110 115	206.02	125.29	76.32	46.56	29.45	17.41	10.67	6.55	4.03	2.48
115 120	71.67	45.55	28.97	18.43	11.74	7.48	4.77	3.04	1.94	1.24
120 125	91.01	55.64	34.08	20.92	12.87	7.93	4.90	3.03	1.88	1.17
125 130	101.88	64.55	40.91	25.94	16.45	10.44	6.62	4.21	2.67	1.70
130 135	93.61	59.30	37.67	23.99	15.31	9.80	6.29	4.04	2.61	1.68
135 140	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38
140 145	95.80	60.93	38.77	24.68	15.72	10.02	6.39	4.08	2.60	1.66
145 150	33.06	22.09	14.77	9.87	6.60	4.41	2.95	1.97	1.32	0.88
150 155	44.57	29.44	19.47	12.90	8.56	5.69	3.78	2.52	1.68	1.12
155 160	18.04	11.76	7.66	5.00	3.26	2.12	1.38	0.90	0.59	0.38
160 165	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44
165 170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170 175	34.57	22.81	15.05	9.93	6.55	4.33	2.86	1.89	1.25	0.82
175 180	16.53	11.05	7.38	4.93	3.30	2.20	1.47	0.98	0.66	0.44
180 185	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
195 200	20.45	14.06	9.67	6.65	4.57	3.15	2.16	1.49	1.02	0.70
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

FIRST HARMONIC

AMPLITUDE	3814.37	2146.21	1214.43	691.41	396.26	228.72	133.03	77.99	46.11	27.50
PHASE	4.95	5.09	5.23	5.39	5.56	5.74	5.93	6.13	6.35	6.56

(IN HOURS)

SECOND HARMONIC

AMPLITUDE	2754.88	1511.61	831.94	459.43	254.71	141.84	79.40	44.71	25.36	14.50
PHASE	4.62	4.72	4.82	4.93	5.05	5.19	5.33	5.49	5.66	5.85

(IN HOURS)

THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV

UTRECHT											
GEOGRAPHIC LATITUDE = 52.06 GEOGRAPHIC LONGITUDE = 5.07											
ASY. LONG. / BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	2554.51	813.96	261.67	85.06	28.04	9.40	3.21	1.12	0.40	0.15	
5 10	7508.15	2396.99	775.42	255.27	85.97	29.80	10.69	3.99	1.56	0.63	
10 15	7315.58	2305.64	731.83	234.36	75.89	24.92	8.33	2.84	0.99	0.36	
15 20	16221.24	5456.38	1877.84	647.04	224.92	78.90	27.95	10.00	3.62	1.33	
20 25	5052.71	2002.74	796.51	317.85	127.26	51.12	20.60	8.33	3.38	1.38	
25 30	1825.40	798.89	351.78	155.87	69.49	31.18	14.07	6.39	2.92	1.34	
30 35	1266.60	592.00	278.71	132.17	63.13	30.36	14.70	7.17	3.51	1.73	
35 40	7584.11	2431.91	792.12	263.58	90.27	32.10	11.96	4.70	1.96	0.86	
40 45	2411.54	983.91	411.74	177.22	78.58	35.90	16.88	8.15	4.02	2.03	
45 50	1480.14	645.41	286.04	129.20	59.62	28.17	13.64	6.77	3.44	1.78	
50 55	1316.70	655.36	330.36	168.70	87.27	45.73	24.26	13.02	7.06	3.87	
55 60	3599.97	1354.68	566.30	262.85	133.09	71.77	40.34	23.30	13.69	8.15	
60 65	8930.55	3324.41	1294.93	533.88	235.13	111.02	56.00	29.90	16.69	9.64	
65 70	1331.58	644.00	317.51	159.96	82.53	43.67	23.73	13.24	7.58	4.45	
70 75	592.19	277.94	133.23	65.45	33.06	17.20	9.24	5.12	2.92	1.71	
75 80	615.49	298.59	147.13	73.99	38.16	20.30	11.18	6.39	3.79	2.32	
80 85	59.26	40.70	27.97	19.22	13.22	9.09	6.26	4.31	2.97	2.04	
85 90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
90 95	37.19	26.45	18.81	13.37	9.51	6.76	4.81	3.42	2.43	1.73	
95 100	21.30	14.86	10.38	7.25	5.06	3.54	2.47	1.73	1.21	0.85	
100 105	21.80	15.87	11.55	8.41	6.13	4.47	3.26	2.38	1.73	1.27	
105 110	12.50	9.25	6.85	5.07	3.75	2.78	2.06	1.52	1.13	0.83	
110 115	28.05	20.49	14.98	10.95	8.01	5.86	4.29	3.14	2.30	1.68	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	15.69	11.74	8.78	6.58	4.92	3.69	2.77	2.07	1.56	1.17	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
135 140	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67	
150 155	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67	
165 170	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	2476.77	729.87	215.08	63.38	18.68	5.50	1.62	0.48	0.14	0.04	
325 330	7185.40	2188.95	667.21	203.49	62.09	18.96	5.79	1.77	0.54	0.17	
330 335	3945.25	1366.64	474.62	165.26	57.69	20.19	7.09	2.49	0.88	0.31	
335 340	1067.81	435.19	177.42	72.36	29.52	12.05	4.92	2.01	0.82	0.34	
340 345	2490.89	846.14	289.37	99.78	34.75	12.25	4.38	1.59	0.59	0.22	
345 350	7315.58	2305.64	731.83	234.36	75.89	24.92	8.33	2.84	0.99	0.36	
350 355	1844.78	696.20	264.44	101.21	39.09	15.25	6.02	2.41	0.98	0.40	
355 360	3344.38	1080.63	356.90	120.73	41.87	14.88	5.42	2.01	0.76	0.29	
FIRST HARMONIC											
AMPLITUDE	86819.48	30222.36	10892.45	4105.25	1636.61	697.72	320.32	158.39	83.79	46.93	
PHASE	0.69	0.86	1.08	1.37	1.72	2.13	2.58	3.03	3.45	3.84	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	56048.81	119151.06	6755.19	2497.15	987.81	426.62	202.44	104.25	57.02	32.52	
PHASE	0.65	0.84	1.08	1.40	1.79	2.23	2.67	3.07	3.41	3.70	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 500.00 GV											

UTRECHT											
GEOGRAPHIC LATITUDE = 52.06 GEOGRAPHIC LONGITUDE = 5.07											
ASY. LONG./BETA = +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	200.20	84.42	35.60	15.01	6.33	2.67	1.13	0.47	0.20	0.08	
5 10	386.68	178.44	82.66	38.44	17.94	8.40	3.95	1.86	0.88	0.42	
10 15	194.11	87.09	39.07	17.53	7.87	3.53	1.58	0.71	0.32	0.14	
15 20	6809.39	2518.69	933.47	346.82	129.25	48.35	18.17	6.87	2.61	1.00	
20 25	5052.71	2002.74	796.51	317.85	127.26	51.12	20.60	8.33	3.38	1.38	
25 30	1825.40	798.89	351.78	155.87	69.49	31.18	14.07	6.39	2.92	1.34	
30 35	1266.60	592.00	278.71	132.17	63.13	30.36	14.70	7.17	3.51	1.73	
35 40	462.63	213.36	99.36	46.75	22.24	10.71	5.21	2.57	1.28	0.65	
40 45	2411.54	983.91	411.74	177.22	78.58	35.90	16.88	8.15	4.02	2.03	
45 50	1480.14	645.41	286.04	129.20	59.62	28.17	13.64	6.77	3.44	1.78	
50 55	1316.70	655.36	330.36	168.70	87.27	45.73	24.26	13.02	7.06	3.87	
55 60	1123.20	624.81	351.22	199.46	114.42	66.26	38.72	22.82	13.55	8.10	
60 65	4285.85	1835.73	817.25	380.43	185.78	95.13	50.88	28.25	16.16	9.47	
65 70	1331.58	644.00	317.51	159.96	82.53	43.67	23.73	13.24	7.58	4.45	
70 75	592.19	277.94	133.23	65.45	33.06	17.20	9.24	5.12	2.92	1.71	
75 80	615.49	298.59	147.13	73.99	38.16	20.30	11.18	6.39	3.79	2.32	
80 85	59.26	40.70	27.97	19.22	13.22	9.09	6.26	4.31	2.97	2.04	
85 90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
90 95	37.19	26.45	18.81	13.37	9.51	6.76	4.81	3.42	2.43	1.73	
95 100	21.30	14.86	10.38	7.25	5.06	3.54	2.47	1.73	1.21	0.85	
100 105	21.80	15.87	11.55	8.41	6.13	4.47	3.26	2.38	1.73	1.27	
105 110	12.50	9.25	6.85	5.07	3.75	2.78	2.06	1.52	1.13	0.83	
110 115	28.05	20.49	14.98	10.95	8.01	5.86	4.29	3.14	2.30	1.68	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	15.69	11.74	8.78	6.58	4.92	3.69	2.77	2.07	1.56	1.17	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
135 140	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67	
150 155	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67	
165 170	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	1654.87	607.50	223.01	81.87	30.05	11.03	4.05	1.49	0.55	0.20	
335 340	1067.81	435.19	177.42	72.36	29.52	12.05	4.92	2.01	0.82	0.34	
340 345	200.51	87.01	37.75	16.38	7.11	3.08	1.34	0.58	0.25	0.11	
345 350	194.11	87.09	39.07	17.53	7.87	3.53	1.58	0.71	0.32	0.14	
350 355	1844.78	696.20	264.44	101.21	39.09	15.25	6.02	2.41	0.98	0.40	
355 360	867.61	350.77	141.82	57.35	23.19	9.38	3.79	1.53	0.62	0.25	
FIRST HARMONIC											
AMPLITUDE	31549.11	13196.06	5666.36	2511.40	1155.24	554.20	278.16	146.18	80.31	45.95	
PHASE	1.63	1.78	1.96	2.17	2.42	2.70	3.01	3.32	3.64	3.96	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	22119.01	9183.03	3922.56	1736.11	801.57	387.85	196.85	104.48	57.86	32.88	
PHASE	1.67	1.83	2.02	2.24	2.48	2.75	3.02	3.28	3.53	3.77	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 188.75 GV											



UTRECHT											
GEOGRAPHIC LATITUDE = 52.06 GEOGRAPHIC LONGITUDE = 5.07											
ASY.LONG./BETA= +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 0.0 -0.2											
0 5	200.20	84.42	35.60	15.01	6.33	2.67	1.13	0.47	0.20	0.08	
5 10	386.68	178.44	82.66	38.44	17.94	8.40	3.95	1.86	0.88	0.42	
10 15	194.11	87.09	39.07	17.53	7.87	3.53	1.58	0.71	0.32	0.14	
15 20	189.92	88.70	41.43	19.35	9.04	4.22	1.97	0.92	0.43	0.20	
20 25	3397.85	1355.24	573.50	235.98	97.21	40.09	16.55	6.84	2.83	1.17	
25 30	1825.40	798.89	351.78	155.87	69.49	31.18	14.07	6.39	2.92	1.34	
30 35	1266.60	592.00	278.71	132.17	63.13	30.36	14.70	7.17	3.51	1.73	
35 40	462.63	213.36	99.36	46.75	22.24	10.71	5.21	2.57	1.28	0.65	
40 45	756.67	376.41	188.73	95.35	48.53	24.87	12.83	6.66	3.48	1.83	
45 50	1480.14	645.41	286.04	129.20	59.62	28.17	13.64	6.77	3.44	1.78	
50 55	1316.70	655.36	330.36	168.70	87.27	45.73	24.26	13.02	7.06	3.87	
55 60	1123.20	624.81	351.22	199.46	114.42	66.26	38.72	22.82	13.55	8.10	
60 65	2630.98	1228.23	594.24	298.56	155.72	84.10	46.83	26.76	15.62	9.27	
65 70	1331.58	644.00	317.51	159.96	82.53	43.67	23.73	13.24	7.58	4.45	
70 75	592.19	277.94	133.23	65.45	33.06	17.20	9.24	5.12	2.92	1.71	
75 80	615.49	298.59	147.13	73.99	38.16	20.30	11.18	6.39	3.79	2.32	
80 85	59.26	40.70	27.97	19.22	13.22	9.09	6.26	4.31	2.97	2.04	
85 90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
90 95	37.19	26.45	18.81	13.37	9.51	6.76	4.81	3.42	2.43	1.73	
95 100	21.30	14.86	10.38	7.25	5.06	3.54	2.47	1.73	1.21	0.85	
100 105	21.80	15.87	11.55	8.41	6.13	4.47	3.26	2.38	1.73	1.27	
105 110	12.50	9.25	6.85	5.07	3.75	2.78	2.06	1.52	1.13	0.83	
110 115	28.05	20.49	14.98	10.95	8.01	5.86	4.29	3.14	2.30	1.68	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	15.69	11.74	8.78	6.58	4.92	3.69	2.77	2.07	1.56	1.17	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
135 140	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67	
150 155	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67	
165 170	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	1067.81	435.19	177.42	72.36	29.52	12.05	4.92	2.01	0.82	0.34	
340 345	200.51	87.01	37.75	16.38	7.11	3.08	1.34	0.58	0.25	0.11	
345 350	194.11	87.09	39.07	17.53	7.87	3.53	1.58	0.71	0.32	0.14	
350 355	189.92	88.70	41.43	19.35	9.04	4.22	1.97	0.92	0.43	0.20	
355 360	867.61	350.77	141.82	57.35	23.19	9.38	3.79	1.53	0.62	0.25	
FIRST HARMONIC											
AMPLITUDE	18367.64	8407.98	3934.05	1887.99	932.42	475.22	250.43	136.54	76.99	44.82	
PHASE	2.18	2.31	2.45	2.62	2.82	3.04	3.27	3.53	3.79	4.06	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	13192.31	6072.27	2860.28	1383.19	688.51	353.32	186.97	101.93	57.12	32.83	
PHASE	2.28	2.41	2.55	2.70	2.88	3.06	3.25	3.45	3.65	3.84	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 111.25 GV											

UTRECHT											
GEOGRAPHIC LATITUDE = 52.06 GEOGRAPHIC LONGITUDE = 5.07											
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	200.20	84.42	35.60	15.01	6.33	2.67	1.13	0.47	0.20	0.08	
5 10	386.68	178.44	82.66	38.44	17.94	8.40	3.95	1.86	0.88	0.42	
10 15	194.11	87.09	39.07	17.53	7.87	3.53	1.58	0.71	0.32	0.14	
15 20	189.92	88.70	41.43	19.35	9.04	4.22	1.97	0.92	0.43	0.20	
20 25	795.01	342.93	148.03	63.94	27.63	11.95	5.17	2.24	0.97	0.42	
25 30	1157.07	530.08	243.66	112.38	52.00	24.14	11.24	5.25	2.46	1.16	
30 35	1067.31	510.04	245.01	118.31	57.43	28.02	13.74	6.77	3.35	1.67	
35 40	462.63	213.36	99.36	46.75	22.24	10.71	5.21	2.57	1.28	0.65	
40 45	756.67	376.41	188.73	95.35	48.53	24.87	12.83	6.66	3.48	1.83	
45 50	612.52	294.65	144.21	71.85	36.43	18.79	9.84	5.23	2.82	1.53	
50 55	1316.70	655.36	330.36	168.70	87.27	45.73	24.26	13.02	7.06	3.87	
55 60	1123.20	624.81	351.22	199.46	114.42	66.26	38.72	22.82	13.55	8.10	
60 65	1095.04	608.65	344.30	197.73	115.04	67.68	40.21	24.09	14.54	8.83	
65 70	1132.29	562.04	283.81	146.10	76.82	41.33	22.77	12.85	7.42	4.38	
70 75	592.19	277.94	133.23	65.45	33.06	17.20	9.24	5.12	2.92	1.71	
75 80	615.49	298.59	147.13	73.99	38.16	20.30	11.18	6.39	3.79	2.32	
80 85	59.26	40.70	27.97	19.22	13.22	9.09	6.26	4.31	2.97	2.04	
85 90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
90 95	37.19	26.45	18.81	13.37	9.51	6.76	4.81	3.42	2.43	1.73	
95 100	21.30	14.86	10.38	7.25	5.06	3.54	2.47	1.73	1.21	0.85	
100 105	21.80	15.87	11.55	8.41	6.13	4.47	3.26	2.38	1.73	1.27	
105 110	12.50	9.25	6.85	5.07	3.75	2.78	2.06	1.52	1.13	0.83	
110 115	28.05	20.49	14.98	10.95	8.01	5.86	4.29	3.14	2.30	1.66	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
120 125	15.69	11.74	8.78	6.58	4.92	3.69	2.77	2.07	1.56	1.17	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
135 140	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
145 150	6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67	
150 155	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
160 165	6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67	
165 170	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
230 235	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
335 340	200.20	84.42	35.60	15.01	6.33	2.67	1.13	0.47	0.20	0.08	
340 345	200.51	87.01	37.75	16.38	7.11	3.08	1.34	0.58	0.25	0.11	
345 350	194.11	87.09	39.07	17.53	7.87	3.53	1.58	0.71	0.32	0.14	
350 355	189.92	88.70	41.43	19.35	9.04	4.22	1.97	0.92	0.43	0.20	
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FIRST HARMONIC											
AMPLITUDE	11533.25	5666.08	2836.75	1450.28	758.53	406.48	223.40	125.99	72.90	43.25	
PHASE	2.59	2.70	2.83	2.97	3.13	3.31	3.51	3.72	3.94	4.17	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	8744.71	4332.77	2186.58	1125.42	591.32	317.32	173.92	97.32	55.55	32.32	
PHASE	2.68	2.78	2.90	3.02	3.15	3.29	3.44	3.59	3.75	3.92	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 80.00 GV											

UTRECHT											
GEOGRAPHIC LATITUDE = 52.06 GEOGRAPHIC LONGITUDE = 5.07											
ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2	
0 5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10	186.17	91.43	44.90	22.05	10.83	5.32	2.61	1.28	0.63	0.31	
10 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20	189.92	88.70	41.43	19.35	9.04	4.22	1.97	0.92	0.43	0.20	
20 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30	562.26	271.57	131.24	63.45	30.70	14.86	7.20	3.49	1.69	0.82	
30 35	672.70	335.94	168.18	84.40	42.45	21.40	10.82	5.48	2.78	1.41	
35 40	262.44	128.95	63.76	31.74	15.91	8.04	4.09	2.10	1.08	0.56	
40 45	556.17	289.40	150.98	78.97	41.42	21.78	11.49	6.08	3.22	1.72	
45 50	218.22	123.14	69.54	39.30	22.23	12.59	7.13	4.05	2.30	1.31	
50 55	922.08	481.26	253.53	134.79	72.30	39.11	21.33	11.72	6.49	3.62	
55 60	1123.20	624.81	351.22	199.46	114.42	66.26	38.72	22.82	13.55	8.10	
60 65	894.84	524.23	308.70	182.72	108.71	65.02	39.08	23.61	14.34	8.75	
65 70	737.67	387.95	206.98	112.18	61.85	34.72	19.85	11.56	6.85	4.13	
70 75	191.49	106.51	59.88	34.06	19.62	11.45	6.77	4.06	2.47	1.52	
75 80	421.38	211.50	108.06	56.45	30.30	16.77	9.59	5.68	3.47	2.18	
80 85	59.26	40.70	27.97	19.22	13.22	9.09	6.26	4.31	2.97	2.04	
85 90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90 95	37.19	26.45	18.81	13.37	9.51	6.76	4.81	3.42	2.43	1.73	
95 100	21.30	14.86	10.38	7.25	5.06	3.54	2.47	1.73	1.21	0.85	
100 105	21.80	15.87	11.55	8.41	6.13	4.47	3.26	2.38	1.73	1.27	
105 110	12.50	9.25	6.85	5.07	3.75	2.78	2.06	1.52	1.13	0.83	
110 115	28.05	20.49	14.98	10.95	8.01	5.86	4.29	3.14	2.30	1.68	
115 120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120 125	15.69	11.74	8.78	6.58	4.92	3.69	2.77	2.07	1.56	1.17	
125 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130 135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135 140	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
140 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145 150	6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67	
150 155	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
155 160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160 165	6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67	
165 170	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
170 175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175 180	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33	
235 240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355	189.92	88.70	41.43	19.35	9.04	4.22	1.97	0.92	0.43	0.20	
355 360	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC											
AMPLITUDE	6870.62	3652.20	1967.87	1075.97	597.61	337.47	193.91	113.43	67.58	41.00	
PHASE	3.05	3.14	3.24	3.35	3.47	3.61	3.76	3.93	4.11	4.31	
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE	5727.75	3051.81	1645.27	897.99	496.43	278.07	157.86	90.83	52.98	31.32	
PHASE	3.08	3.15	3.23	3.32	3.41	3.51	3.63	3.75	3.88	4.02	
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 50.00 GV											



		UTRECHT									
		GEOGRAPHIC LATITUDE = 52.06 GEOGRAPHIC LONGITUDE = 5.07									
ASY. LONG. / BETA =		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
0 5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 10		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 15		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 20		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 25		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 30		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30 35		296.61	155.81	81.85	43.00	22.59	11.86	6.23	3.27	1.72	0.90
35 40		72.52	40.25	22.33	12.39	6.88	3.82	2.12	1.18	0.65	0.36
40 45		369.99	197.97	106.07	56.92	30.59	16.46	8.88	4.79	2.59	1.41
45 50		218.22	123.14	69.54	39.30	22.23	12.59	7.13	4.05	2.30	1.31
50 55		542.25	303.87	170.68	96.09	54.23	30.67	17.39	9.88	5.63	3.21
55 60		750.85	441.94	261.41	155.36	92.76	55.62	33.50	20.25	12.29	7.49
60 65		894.84	524.23	308.70	182.72	108.71	65.02	39.08	23.61	14.34	8.75
65 70		361.58	207.82	120.65	70.78	41.98	25.18	15.26	9.35	5.79	3.62
70 75		191.49	106.51	59.88	34.06	19.62	11.45	6.77	4.06	2.47	1.52
75 80		45.29	31.37	21.73	15.05	10.43	7.23	5.01	3.47	2.41	1.67
80 85		59.26	40.70	27.97	19.22	13.22	9.09	6.26	4.31	2.97	2.04
85 90		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90 95		37.19	26.45	18.81	13.37	9.51	6.76	4.81	3.42	2.43	1.73
95 100		21.30	14.86	10.38	7.25	5.06	3.54	2.47	1.73	1.21	0.85
100 105		21.80	15.87	11.55	8.41	6.13	4.47	3.26	2.38	1.73	1.27
105 110		12.50	9.25	6.85	5.07	3.75	2.78	2.06	1.52	1.13	0.83
110 115		28.05	20.49	14.98	10.95	8.01	5.86	4.29	3.14	2.30	1.68
115 120		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120 125		15.69	11.74	8.78	6.58	4.92	3.69	2.77	2.07	1.56	1.17
125 130		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130 135		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135 140		3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
140 145		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145 150		6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67
150 155		3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
155 160		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160 165		6.38	4.97	3.87	3.01	2.34	1.82	1.42	1.10	0.86	0.67
165 170		3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
170 175		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175 180		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180 185		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185 190		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190 195		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195 200		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 205		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205 210		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210 215		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215 220		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220 225		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225 230		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230 235		3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
235 240		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240 245		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245 250		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250 255		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255 260		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260 265		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265 270		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270 275		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 280		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280 285		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285 290		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290 295		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295 300		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300 305		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305 310		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310 315		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315 320		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320 325		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325 330		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330 335		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335 340		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340 345		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345 350		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350 355		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355 360		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST HARMONIC											
AMPLITUDE		3815.71	2194.89	1272.99	744.88	440.02	262.58	155.38	96.62	59.64	37.27
PHASE		3.52	3.59	3.66	3.74	3.83	3.94	4.06	4.20	4.34	4.51
(IN HOURS)											
SECOND HARMONIC											
AMPLITUDE		3491.91	1994.17	1146.03	662.98	386.20	226.60	133.96	79.82	47.95	29.06
PHASE		3.47	3.52	3.57	3.63	3.70	3.77	3.86	3.95	4.06	4.17
(IN HOURS)											
THE UPPER LIMIT FOR THIS CALCULATION IS 29.00 GV											

## APPENDIX B

### AMPLITUDES AND PHASES OF THE STATION RESPONSES TO A SQUARE WAVE $60^\circ$ WIDE

The following section contains the amplitudes and phases of the station responses to a square wave (lunes of the celestial sphere)  $60^\circ$  wide as a function of the asymptotic longitude of the center of the pulse. The exponential of the spectrum ( $B$ ) ranges from +1.6 to -0.2 and the upper limiting rigidity is 80 GV in all cases.

APATITY  
GEOGRAPHIC LATITUDE = 67.55    GEOGRAPHIC LONGITUDE = 33.33

SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY.LONG./BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	+0.0	-0.2
0	1526.20	679.57	303.33	135.74	60.91	27.40	12.36	5.59	2.54	1.16
5	1711.32	766.03	343.71	154.60	69.72	31.51	14.28	6.49	2.96	1.36
10	1711.32	766.03	343.71	154.60	69.72	31.51	14.28	6.49	2.96	1.36
15	2181.92	1007.04	467.26	218.01	102.29	48.26	22.90	10.93	5.25	2.54
20	3430.47	1576.74	729.16	339.41	159.06	75.07	35.69	17.10	8.26	4.02
25	3637.15	1690.53	790.54	372.07	176.29	84.11	40.42	19.58	9.56	4.70
30	4129.21	1927.91	907.57	431.00	206.56	99.94	48.83	24.10	12.02	6.05
35	4846.38	2295.05	1098.51	531.94	260.82	129.59	65.29	33.38	17.33	9.12
40	5721.37	2825.47	1421.24	729.01	381.60	203.88	111.16	61.80	35.01	20.15
45	6542.54	3306.46	1705.10	897.88	482.89	265.16	148.57	84.84	49.32	29.13
50	7123.16	3650.81	1913.35	1026.42	563.88	317.24	182.70	107.62	64.75	39.74
55	8200.83	4160.48	2159.32	1148.29	626.30	350.53	201.31	118.54	71.48	44.08
60	8572.19	4353.66	2260.92	1202.58	655.96	367.24	211.11	124.58	75.40	46.78
65	9009.49	4568.48	2366.84	1255.02	682.03	380.26	217.64	127.87	77.07	47.63
70	9589.29	4820.47	2476.43	1302.71	702.80	389.31	221.59	129.59	77.82	47.96
75	9263.41	4655.54	2392.90	1260.38	681.35	378.45	216.10	126.83	76.45	47.29
80	8015.40	4086.34	2131.46	1139.40	624.97	352.00	203.64	120.97	73.72	46.07
85	7228.92	3720.56	1960.49	1059.05	586.97	333.91	194.96	116.77	71.67	45.06
90	6551.74	3396.72	1803.08	981.26	547.89	313.97	184.63	111.35	68.79	43.51
95	6016.05	3118.71	1655.91	901.82	504.19	289.51	170.72	103.32	64.09	40.74
100	4959.58	2499.16	1289.41	683.25	372.85	210.03	122.30	73.65	45.80	29.41
105	4323.53	2104.63	1045.93	533.24	280.37	152.86	86.81	51.51	31.91	20.63
110	3547.77	1677.99	802.98	390.07	193.21	98.18	51.58	28.27	16.28	9.94
115	2463.86	1168.40	558.30	269.32	131.53	65.32	33.21	17.47	9.61	5.63
120	1903.30	890.34	418.62	197.95	94.21	45.18	21.88	10.75	5.39	2.80
125	1280.91	589.09	272.35	126.68	59.36	28.08	13.46	6.59	3.33	1.79
130	896.58	421.93	199.58	94.98	45.54	22.06	10.84	5.46	2.85	1.59
135	751.87	345.86	159.57	73.91	34.43	16.18	7.72	3.79	1.94	1.09
140	946.47	427.65	193.81	88.12	40.21	18.42	8.49	3.94	1.86	0.91
145	946.47	427.65	193.81	88.12	40.21	18.42	8.49	3.94	1.86	0.91
150	946.47	427.65	193.81	88.12	40.21	18.42	8.49	3.94	1.86	0.91
155	764.99	338.52	150.04	66.62	29.65	13.23	5.94	2.69	1.25	0.61
160	764.99	338.52	150.04	66.62	29.65	13.23	5.94	2.69	1.25	0.61
165	579.87	252.06	109.66	47.76	20.84	9.12	4.02	1.79	0.83	0.41
170	579.87	252.06	109.66	47.76	20.84	9.12	4.02	1.79	0.83	0.41
175	390.66	167.17	71.57	30.67	13.17	5.68	2.48	1.10	0.52	0.27
180	390.65	167.16	71.56	30.66	13.16	5.67	2.47	1.09	0.51	0.26
185	390.62	167.13	71.53	30.63	13.13	5.64	2.44	1.06	0.48	0.22
190	195.15	82.30	34.71	14.64	6.18	2.61	1.11	0.47	0.21	0.09
195	195.14	82.29	34.70	14.63	6.17	2.60	1.10	0.46	0.20	0.08
200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	579.80	251.99	109.59	47.69	20.77	9.05	3.95	1.72	0.75	0.33
330	764.92	338.45	149.97	66.55	29.58	13.16	5.87	2.62	1.17	0.53
335	764.92	338.45	149.97	66.55	29.58	13.16	5.87	2.62	1.17	0.53
340	946.40	427.58	193.74	88.05	40.14	18.35	8.42	3.87	1.78	0.83
345	946.40	427.58	193.74	88.05	40.14	18.35	8.42	3.87	1.78	0.83
350	1141.54	509.87	228.44	102.68	46.31	20.95	9.52	4.33	1.98	0.91
355	1336.99	594.68	265.24	118.65	53.24	23.96	10.82	4.90	2.23	1.02

AMPLITUDE    9589.29 4820.47 2476.43 1302.71 702.80 389.31 221.59 129.59 77.82 47.96  
 POSITION       70.00    70.00    70.00    70.00    70.00    70.00    70.00    70.00    70.00    70.00  
 (DEGREES)

PHASE         -323.33 -323.33 -323.33 -323.33 -323.33 -323.33 -323.33 -323.33 -323.33 -323.33  
 (DEGREES)

THE UPPER LIMIT IS    80.00 GV



ATHENS  
 GEOGRAPHIC LATITUDE = 37.97 GEOGRAPHIC LONGITUDE = 23.72  
 SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	+0.0	-0.2
0	1354.36	593.53	260.51	114.52	50.43	22.23	9.83	4.35	1.94	0.87
5	1630.08	713.17	312.43	137.05	60.21	26.47	11.67	5.15	2.29	1.07
10	2153.00	958.65	427.91	191.48	85.92	38.64	17.44	7.89	3.59	1.64
15	2964.72	1312.79	582.78	259.37	115.75	51.78	23.25	10.46	4.73	2.15
20	4058.35	1787.91	789.29	349.17	154.82	68.79	30.66	13.69	6.14	2.76
25	5660.33	2510.84	1116.33	497.48	222.25	99.53	44.71	20.13	9.10	4.12
30	6401.13	2859.57	1281.48	576.17	259.98	117.73	53.55	24.45	11.22	5.17
35	7441.20	3352.75	1515.67	687.53	313.01	143.02	65.62	30.22	13.98	6.49
40	8713.28	3943.30	1791.52	817.19	374.34	172.21	79.59	36.96	17.24	8.08
45	9487.78	4332.65	1988.51	917.46	425.67	198.63	93.25	44.05	20.94	10.02
50	10056.16	4609.41	2123.71	983.75	458.30	214.76	101.26	48.05	22.95	11.03
55	11166.82	5133.33	2373.31	1103.85	516.66	243.40	115.44	55.13	26.52	12.84
60	11662.73	5412.79	2529.10	1190.11	564.22	269.56	129.81	63.03	30.86	15.23
65	12259.94	5732.38	2699.37	1280.47	612.06	294.86	143.18	70.10	34.60	17.21
70	12346.36	5807.30	2752.93	1315.67	634.12	308.29	151.20	74.83	37.37	18.87
75	11685.59	5537.57	2645.26	1274.18	619.06	303.41	150.01	74.85	37.68	19.12
80	10842.28	5204.67	2519.59	1230.35	606.14	301.29	151.08	76.45	39.02	20.08
85	9643.04	4702.69	2314.06	1149.03	575.74	291.07	148.43	76.36	39.61	20.71
90	9003.15	4411.93	2182.22	1089.48	549.01	279.20	143.23	74.13	38.69	20.35
95	8105.06	4002.99	1998.08	1007.89	513.71	264.48	137.47	72.13	38.19	20.38
100	6656.78	3354.84	1707.81	877.98	455.72	238.73	126.15	67.22	36.12	19.54
105	5655.96	2875.43	1476.61	765.78	400.96	211.87	112.93	60.69	32.89	17.94
110	5060.84	2618.34	1368.77	722.62	385.08	207.01	112.18	61.25	33.70	18.65
115	3738.43	2002.03	1079.92	586.52	320.64	176.37	97.57	54.26	30.36	17.05
120	3044.64	1655.07	905.68	498.77	276.41	154.09	86.40	48.69	27.61	15.77
125	2265.19	1270.51	715.83	405.05	230.17	131.32	75.23	43.23	24.96	14.45
130	1745.71	1005.29	580.35	335.83	194.82	113.28	66.04	38.56	22.60	13.26
135	1636.12	946.48	549.00	319.24	186.12	108.78	63.75	37.41	22.04	13.00
140	1463.21	852.84	498.66	292.42	172.00	101.44	60.02	35.56	21.16	12.61
145	1110.16	660.80	393.97	235.22	140.66	84.23	50.55	30.33	18.26	11.00
150	1045.30	625.81	375.31	225.42	135.61	81.69	49.33	29.78	18.04	10.94
155	931.62	560.02	337.28	203.49	122.99	74.45	45.19	27.42	16.70	10.19
160	832.53	501.54	302.75	183.10	110.95	67.34	40.99	24.94	15.23	9.37
165	783.13	471.96	285.04	172.50	104.60	63.54	38.71	23.58	14.41	8.83
170	607.41	373.96	230.62	142.43	88.09	54.54	33.86	21.00	13.05	8.14
175	557.91	344.38	212.91	131.83	81.74	50.74	31.58	19.64	12.23	7.65
180	480.50	295.80	182.41	112.68	69.71	43.19	26.83	16.66	10.36	6.47
185	550.77	342.27	212.92	132.60	82.66	51.57	32.23	20.14	12.59	7.90
190	460.01	287.09	179.36	112.19	70.24	44.01	27.63	17.34	10.88	6.86
195	454.70	284.47	178.16	111.72	70.12	44.04	27.72	17.44	10.97	6.94
200	377.29	235.89	147.66	92.57	58.09	36.49	22.97	14.46	9.10	5.76
205	355.90	225.43	142.86	90.62	57.51	36.51	23.21	14.75	9.37	5.98
210	319.85	202.45	128.21	81.28	51.56	32.72	20.79	13.21	8.39	5.35
215	291.55	184.00	116.19	73.44	46.45	29.39	18.62	11.80	7.47	4.75
220	291.55	184.00	116.19	73.44	46.45	29.39	18.62	11.80	7.47	4.75
225	291.55	184.00	116.19	73.44	46.45	29.39	18.62	11.80	7.47	4.75
230	227.20	142.57	89.52	56.27	35.39	22.27	14.03	8.84	5.57	3.57
235	227.20	142.57	89.52	56.27	35.39	22.27	14.03	8.84	5.57	3.57
240	227.20	142.57	89.52	56.27	35.39	22.27	14.03	8.84	5.57	3.57
245	64.35	41.43	26.67	17.18	11.06	7.12	4.59	2.95	1.90	1.23
250	64.35	41.43	26.67	17.18	11.06	7.12	4.59	2.95	1.90	1.23
255	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60
260	28.30	18.45	12.02	7.84	5.11	3.33	2.17	1.41	0.92	0.60
265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
295	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
300	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
305	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
310	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
315	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
320	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
325	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
330	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
335	41.36	25.60	15.85	9.81	6.07	3.76	2.33	1.44	0.89	0.55
340	316.65	141.68	64.80	30.45	14.77	7.43	3.88	2.09	1.17	0.67
345	592.37	261.32	116.72	52.98	24.55	11.67	5.72	2.89	1.52	0.82
350	817.92	355.48	154.60	67.28	29.30	12.76	5.57	2.43	1.07	0.47
355	1079.07	477.45	211.56	93.88	41.73	18.56	8.28	3.70	1.66	0.75

AMPLITUDE POSITION (DEGREES) 12346.36 5807.30 2752.93 1315.67 634.12 308.29 151.20 76.45 39.61 20.71  
 70.00 70.00 70.00 70.00 70.00 70.00 70.00 80.00 85.00 85.00

PHASE (DEGREES) -313.72 -313.72 -313.72 -313.72 -313.72 -313.72 -313.72 -303.72 -298.72 -298.72

THE UPPER LIMIT IS 80.00 GV

DOURBES  
GEOGRAPHIC LATITUDE = 50.10    GEOGRAPHIC LONGITUDE = 4.60  
SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY.LONG..BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	+0.0	-0.2
0	3947.94	1763.64	790.01	354.86	159.88	72.24	32.74	14.89	6.78	3.10
5	4635.49	2098.61	954.01	435.55	199.77	92.05	42.63	19.84	9.27	4.36
10	5217.63	2365.85	1077.18	492.54	226.23	104.38	48.40	22.55	10.54	4.96
15	5613.97	2592.33	1203.94	562.48	264.44	125.11	59.59	28.57	13.77	6.69
20	6201.77	2868.04	1335.52	626.42	296.09	141.06	67.77	32.83	16.03	7.90
25	7226.79	3382.82	1596.65	760.24	365.38	177.30	86.91	43.03	21.52	10.88
30	7914.41	3763.92	1808.56	878.52	431.66	214.61	108.01	55.01	28.36	14.80
35	8949.62	4338.24	2132.21	1063.44	538.59	277.08	144.84	76.90	41.46	22.68
40	10236.53	5004.58	2484.42	1253.42	643.07	335.58	178.15	96.15	52.74	29.37
45	10709.20	5258.14	2623.12	1330.83	687.15	361.18	193.29	105.25	58.30	32.81
50	10775.27	5307.57	2657.81	1354.41	702.90	371.61	200.17	109.79	61.30	34.79
55	9795.87	4891.03	2482.18	1281.42	673.33	360.17	196.13	108.66	61.23	35.04
60	8674.78	4388.34	2258.56	1183.37	631.44	343.10	189.81	106.82	61.13	35.52
65	8032.98	4085.06	2116.51	1117.89	602.09	330.59	184.98	105.38	61.07	35.95
70	7450.84	3817.82	1993.34	1060.90	575.63	318.26	179.21	102.67	59.80	35.35
75	6659.11	3424.85	1797.23	962.63	526.24	293.43	166.74	96.44	56.72	33.86
80	5915.53	3089.53	1646.16	895.05	496.56	280.90	161.89	94.93	56.59	34.24
85	4899.90	2581.43	1389.78	764.61	429.67	246.37	143.96	85.59	51.71	31.70
90	4026.74	2115.40	1139.48	629.35	356.16	206.20	121.91	73.45	45.01	28.00
95	2798.69	1462.48	784.62	432.65	245.24	142.74	85.15	51.94	32.32	20.47
100	1133.80	625.24	355.83	208.96	126.43	78.56	49.93	32.35	21.29	14.20
105	471.36	288.37	181.12	116.40	76.30	50.79	34.23	23.30	15.98	11.04
110	235.46	165.37	116.25	81.78	57.61	40.61	28.65	20.23	14.30	10.14
115	215.54	152.27	107.67	76.19	53.98	38.26	27.15	19.28	13.70	9.77
120	167.80	119.49	85.15	60.72	43.34	30.94	22.11	15.81	11.31	8.12
125	122.05	87.80	63.20	45.51	32.80	23.64	17.05	12.30	8.88	6.43
130	128.36	92.47	66.66	48.07	34.70	25.04	18.09	13.07	9.45	6.85
135	128.86	93.25	67.54	48.94	35.51	25.76	18.71	13.60	9.89	7.21
140	88.56	64.88	47.56	34.87	25.59	18.77	13.78	10.13	7.44	5.48
145	79.17	58.20	42.81	31.49	23.19	17.06	12.57	9.27	6.83	5.04
150	72.66	53.53	39.35	28.93	21.29	15.66	11.53	8.50	6.26	4.62
155	63.47	46.85	34.60	25.55	18.89	13.95	10.32	7.64	5.65	4.18
160	50.84	37.50	27.68	20.43	15.10	11.14	8.24	6.10	4.51	3.34
165	48.11	35.62	26.39	19.56	14.51	10.76	8.00	5.95	4.42	3.30
170	26.09	19.59	14.72	11.06	8.32	6.25	4.71	3.55	2.67	2.02
175	19.78	14.92	11.26	8.50	6.42	4.85	3.67	2.78	2.10	1.60
180	19.78	14.92	11.26	8.50	6.42	4.85	3.67	2.78	2.10	1.60
185	19.78	14.92	11.26	8.50	6.42	4.85	3.67	2.78	2.10	1.60
190	13.47	10.25	7.80	5.94	4.52	3.45	2.63	2.01	1.53	1.18
195	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
200	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
205	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
210	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
215	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
220	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
225	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
230	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
235	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
240	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
245	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
250	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
255	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
260	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
265	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
270	3.58	2.79	2.17	1.69	1.31	1.02	0.80	0.62	0.48	0.38
275	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
280	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
285	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
290	10.74	8.37	6.51	5.07	3.93	3.06	2.40	1.86	1.44	1.14
295	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
300	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
305	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
310	7.16	5.58	4.34	3.38	2.62	2.04	1.60	1.24	0.96	0.76
315	411.94	178.75	78.44	35.09	16.20	7.85	4.09	2.31	1.42	0.96
320	608.02	266.73	117.91	52.80	24.15	11.42	5.69	3.03	1.74	1.10
325	608.02	266.73	117.91	52.80	24.15	11.42	5.69	3.03	1.74	1.10
330	799.87	356.33	159.76	72.34	33.28	15.68	7.68	3.96	2.17	1.30
335	998.52	438.82	193.55	85.81	38.36	17.36	8.02	3.82	1.89	1.01
340	1389.13	619.07	277.05	124.64	56.48	25.85	12.01	5.70	2.78	1.43
345	1585.21	707.05	316.52	142.35	64.43	29.42	13.61	6.42	3.10	1.57
350	1773.48	793.86	356.20	160.20	72.25	32.66	14.80	6.73	3.05	1.39
355	2779.11	1228.17	543.87	241.34	107.35	47.85	21.38	9.58	4.29	1.93

AMPLITUDE    10775.27 5307.57 2657.81 1354.41 702.90 371.61 200.17 109.79 61.30 35.95  
POSITION       50.00 50.00 50.00 50.00 50.00 50.00 50.00 50.00 50.00 65.00  
(DEGREES)

PHASE           -314.60 -314.60 -314.60 -314.60 -314.60 -314.60 -314.60 -314.60 -314.60 -299.60  
(DEGREES)

THE UPPER LIMIT IS 80.00 GV

JUNGFRAUJNCH  
GEOGRAPHIC LATITUDE = 46.55 GEOGRAPHIC LONGITUDE = 7.98

SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY.LONG./BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	+0.0	-0.2
0	2803.70	1243.05	553.33	247.59	111.60	50.84	23.50	11.10	5.41	2.76
5	3793.26	1690.38	756.14	339.82	153.66	70.08	32.33	15.16	7.29	3.63
10	4728.22	2127.40	961.51	436.85	199.75	92.09	42.89	20.26	9.76	4.83
15	5461.92	2476.62	1128.50	517.07	238.46	110.86	52.03	24.73	11.95	5.91
20	6018.77	2770.26	1282.63	597.73	280.60	132.85	63.50	30.72	15.08	7.54
25	6720.78	3095.19	1434.41	669.35	314.77	149.34	71.56	34.71	17.08	8.55
30	7109.96	3313.05	1555.74	736.70	352.06	169.96	82.96	41.01	20.56	10.47
35	7792.25	3663.18	1738.13	833.04	403.58	197.82	98.19	49.40	25.23	13.08
40	8816.33	4155.10	1976.88	950.03	461.37	226.52	112.46	56.47	28.68	14.71
45	9770.28	4650.62	2236.62	1087.51	534.89	266.25	134.16	68.44	35.35	18.46
50	10214.33	4922.41	2400.24	1184.98	592.58	300.26	154.18	80.23	42.29	22.56
55	10264.61	4979.25	2447.26	1219.55	616.51	316.25	164.64	86.98	46.60	25.30
60	9471.29	4676.36	2341.17	1189.18	613.10	320.88	170.49	91.94	50.29	27.87
65	8663.70	4345.55	2213.11	1144.99	601.97	321.59	174.55	96.22	53.82	30.51
70	7782.12	3943.29	2030.38	1062.71	565.50	305.85	168.08	93.79	53.09	30.45
75	7111.46	3636.22	1891.58	1001.35	539.41	295.53	164.60	93.11	53.44	31.07
80	6384.37	3278.69	1715.78	915.08	497.26	275.11	154.84	88.55	51.38	30.20
85	5496.04	2876.65	1533.12	831.83	459.26	257.80	147.00	85.05	49.87	29.59
90	4967.06	2610.51	1400.09	766.10	427.43	242.90	140.43	82.48	49.14	29.65
95	4107.50	2180.84	1182.79	655.00	370.07	213.04	124.77	74.23	44.78	27.35
100	2898.65	1615.01	915.43	527.55	308.87	183.51	110.50	67.37	41.52	25.85
105	1758.42	1042.76	625.31	378.96	232.00	143.38	89.37	56.18	35.57	22.68
110	920.13	585.85	374.58	240.42	154.91	100.18	64.99	42.32	27.64	18.11
115	677.83	439.33	285.67	186.29	121.84	79.92	52.54	34.64	22.90	15.17
120	464.46	307.39	203.84	135.40	90.10	60.07	40.10	26.82	17.97	12.06
125	312.02	211.53	143.54	97.47	66.25	45.08	30.68	20.91	14.26	9.74
130	288.21	197.80	135.85	93.35	64.19	44.19	30.41	20.96	14.45	9.97
135	225.17	155.65	107.66	74.49	51.57	35.74	24.75	17.17	11.91	8.27
140	219.99	153.68	107.44	75.14	52.58	36.83	25.79	18.08	12.69	8.91
145	220.03	154.06	107.94	75.66	53.06	37.25	26.14	18.37	12.92	9.09
150	159.75	112.57	79.36	55.97	39.49	27.89	19.68	13.91	9.84	6.96
155	145.00	102.43	72.38	51.17	36.19	25.62	18.12	12.84	9.10	6.45
160	115.50	82.15	58.43	41.58	29.59	21.08	15.00	10.69	7.62	5.43
165	100.71	71.63	50.95	36.26	25.81	18.39	13.09	9.33	6.65	4.74
170	115.50	82.15	58.43	41.58	29.59	21.08	15.00	10.69	7.62	5.43
175	115.50	82.15	58.43	41.58	29.59	21.08	15.00	10.69	7.62	5.43
180	127.53	91.06	65.02	46.46	33.20	23.75	16.98	12.16	8.70	6.23
185	98.00	70.40	50.57	36.35	26.12	18.79	13.51	9.73	7.00	5.04
190	68.43	49.37	35.62	25.72	18.56	13.41	9.69	7.01	5.07	3.67
195	80.46	58.28	42.21	30.60	22.17	16.08	11.67	8.48	6.15	4.47
200	53.64	38.86	28.14	20.40	14.78	10.72	7.78	5.66	4.10	2.98
205	38.85	28.34	20.66	15.08	11.00	8.03	5.87	4.30	3.13	2.29
210	38.85	28.34	20.66	15.08	11.00	8.03	5.87	4.30	3.13	2.29
215	38.85	28.34	20.66	15.08	11.00	8.03	5.87	4.30	3.13	2.29
220	38.85	28.34	20.66	15.08	11.00	8.03	5.87	4.30	3.13	2.29
225	38.85	28.34	20.66	15.08	11.00	8.03	5.87	4.30	3.13	2.29
230	24.06	17.82	13.18	9.76	7.22	5.34	3.96	2.94	2.16	1.60
235	24.06	17.82	13.18	9.76	7.22	5.34	3.96	2.94	2.16	1.60
240	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
245	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
250	12.03	8.91	6.59	4.88	3.61	2.67	1.98	1.47	1.08	0.80
255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	202.24	85.28	35.96	15.16	6.39	2.70	1.14	0.48	0.20	0.09
325	403.31	172.53	73.82	31.59	13.52	5.79	2.48	1.06	0.45	0.20
330	603.19	262.30	114.10	49.64	21.63	9.43	4.11	1.79	0.78	0.35
335	795.41	351.98	155.99	69.22	30.77	13.70	6.10	2.72	1.21	0.55
340	1009.68	446.17	198.55	89.27	40.78	19.07	9.22	4.66	2.50	1.44
345	1210.75	533.42	236.41	105.70	47.91	22.16	10.56	5.24	2.75	1.55
350	1604.99	718.54	323.52	146.77	67.31	31.35	14.92	7.31	3.74	2.02
355	1797.01	808.22	365.41	166.33	76.45	35.62	16.91	8.24	4.17	2.22

AMPLITUDE 10264.61 4979.25 2447.26 1219.55 616.51 321.59 174.55 96.22 53.82 31.07  
 POSITION 55.00 55.00 55.00 55.00 55.00 65.00 65.00 65.00 65.00 65.00  
 (DEGREES)  
 PHASE -312.98 -312.98 -312.98 -312.98 -312.98 -302.98 -302.98 -302.98 -302.98 -292.98  
 (DEGREES)

THE UPPER LIMIT IS 80.00 GV



KIEL  
GEOGRAPHIC LATITUDE = 54.33 GEOGRAPHIC LONGITUDE = 10.13  
SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	+0.0	-0.2
0	2898.71	1286.58	572.55	255.61	114.60	51.70	23.52	10.86	5.12	2.51
5	3986.85	1799.67	815.65	371.33	169.94	78.28	36.34	17.07	8.14	3.99
10	4704.91	2137.91	975.85	447.62	206.48	95.87	44.86	21.22	10.17	4.99
15	5146.12	2362.45	1090.76	506.76	237.08	111.78	53.18	25.59	12.47	6.22
20	5426.03	2524.37	1183.03	558.77	266.17	127.94	62.12	30.50	15.15	7.67
25	6277.23	2951.14	1400.57	671.44	325.40	159.51	79.16	39.79	20.27	10.52
30	7512.45	3606.88	1756.49	868.71	436.83	223.51	116.46	61.80	33.39	18.41
35	8786.70	4319.20	2158.67	1098.04	568.88	300.26	161.48	88.44	49.28	27.97
40	9106.85	4538.91	2299.81	1185.64	622.28	332.56	180.98	100.25	56.47	32.38
45	9637.43	4785.82	2418.45	1244.92	653.26	349.51	190.68	106.01	60.01	34.60
50	9830.04	4894.51	2480.71	1281.18	674.75	362.49	198.66	111.00	63.19	36.65
55	10641.15	5268.43	2656.10	1365.36	716.37	383.83	210.09	117.40	66.95	38.95
60	9491.25	4770.06	2441.09	1273.37	677.58	367.90	203.86	115.19	66.35	38.94
65	8445.55	4287.23	2219.59	1173.07	633.26	349.20	196.68	113.02	66.23	39.54
70	7752.12	3967.22	2072.88	1106.77	604.11	337.08	192.21	111.87	66.42	40.18
75	7135.22	3675.17	1934.29	1041.14	573.32	322.94	185.99	109.37	65.63	40.12
80	6475.24	3348.18	1771.13	959.29	532.13	302.24	175.64	104.28	63.20	39.02
85	5627.18	2923.86	1555.49	848.10	474.05	271.57	159.30	95.53	58.50	36.50
90	4204.92	2180.76	1158.77	631.78	353.72	203.41	120.06	72.61	44.96	28.41
95	2936.96	1473.33	760.40	405.41	223.98	128.46	76.44	47.06	29.92	19.51
100	2225.31	1087.24	548.92	288.37	158.49	91.39	55.21	34.75	22.70	15.24
105	1328.91	671.24	352.78	194.13	112.21	68.12	43.23	28.45	19.33	13.42
110	1136.30	562.55	290.52	157.87	90.72	55.14	35.25	23.46	16.15	11.37
115	138.15	101.27	74.33	54.64	40.20	29.64	21.88	16.15	11.97	8.87
120	120.57	88.86	65.58	48.47	35.87	26.60	19.75	14.67	10.94	8.16
125	81.27	61.05	45.88	34.53	26.00	19.62	14.81	11.17	8.46	6.41
130	56.64	42.82	32.39	24.54	18.61	14.15	10.76	8.17	6.24	4.77
135	35.17	27.19	21.01	16.25	12.57	9.75	7.55	5.83	4.53	3.52
140	25.87	20.19	15.73	12.27	9.57	7.48	5.84	4.54	3.55	2.78
145	22.73	17.74	13.83	10.79	8.42	6.58	5.14	4.00	3.13	2.45
150	22.73	17.74	13.83	10.79	8.42	6.58	5.14	4.00	3.13	2.45
155	16.44	12.85	10.02	7.83	6.11	4.78	3.74	2.91	2.28	1.79
160	14.76	11.61	9.13	7.19	5.66	4.46	3.53	2.77	2.20	1.74
165	5.33	4.27	3.42	2.74	2.20	1.77	1.43	1.14	0.93	0.75
170	5.33	4.27	3.42	2.74	2.20	1.77	1.43	1.14	0.93	0.75
175	5.33	4.27	3.42	2.74	2.20	1.77	1.43	1.14	0.93	0.75
180	4.60	3.66	2.91	2.32	1.85	1.48	1.19	0.94	0.76	0.61
185	1.46	1.21	1.01	0.84	0.70	0.58	0.49	0.40	0.34	0.28
190	1.46	1.21	1.01	0.84	0.70	0.58	0.49	0.40	0.34	0.28
195	1.46	1.21	1.01	0.84	0.70	0.58	0.49	0.40	0.34	0.28
200	2.19	1.82	1.52	1.26	1.05	0.87	0.73	0.60	0.51	0.42
205	2.19	1.82	1.52	1.26	1.05	0.87	0.73	0.60	0.51	0.42
210	2.19	1.82	1.52	1.26	1.05	0.87	0.73	0.60	0.51	0.42
215	2.19	1.82	1.52	1.26	1.05	0.87	0.73	0.60	0.51	0.42
220	1.46	1.22	1.02	0.84	0.70	0.58	0.48	0.40	0.34	0.28
225	1.46	1.22	1.02	0.84	0.70	0.58	0.48	0.40	0.34	0.28
230	1.46	1.22	1.02	0.84	0.70	0.58	0.48	0.40	0.34	0.28
235	1.46	1.22	1.02	0.84	0.70	0.58	0.48	0.40	0.34	0.28
240	2.19	1.83	1.53	1.26	1.05	0.87	0.72	0.60	0.51	0.42
245	2.19	1.83	1.53	1.26	1.05	0.87	0.72	0.60	0.51	0.42
250	2.19	1.83	1.53	1.26	1.05	0.87	0.72	0.60	0.51	0.42
255	2.19	1.83	1.53	1.26	1.05	0.87	0.72	0.60	0.51	0.42
260	1.46	1.22	1.02	0.84	0.70	0.58	0.48	0.40	0.34	0.28
265	1.46	1.22	1.02	0.84	0.70	0.58	0.48	0.40	0.34	0.28
270	1.46	1.22	1.02	0.84	0.70	0.58	0.48	0.40	0.34	0.28
275	1.46	1.22	1.02	0.84	0.70	0.58	0.48	0.40	0.34	0.28
280	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
285	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
290	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
295	0.73	0.61	0.51	0.42	0.35	0.29	0.24	0.20	0.17	0.14
300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	197.16	83.14	35.06	14.78	6.23	2.63	1.11	0.47	0.20	0.08
320	586.53	255.21	111.23	48.60	21.33	9.44	4.23	1.94	0.93	0.47
325	586.53	255.21	111.23	48.60	21.33	9.44	4.23	1.94	0.93	0.47
330	773.57	342.57	152.03	67.65	30.23	13.60	6.17	2.85	1.35	0.67
335	773.57	342.57	152.03	67.65	30.23	13.60	6.17	2.85	1.35	0.67
340	1168.21	511.40	224.27	98.57	43.47	19.27	8.60	3.89	1.80	0.86
345	1543.46	687.83	307.48	137.98	62.23	28.28	12.98	6.06	2.90	1.45
350	1543.46	687.83	307.48	137.98	62.23	28.28	12.98	6.06	2.90	1.45
355	1730.50	775.19	348.28	157.03	71.13	32.44	14.92	6.97	3.32	1.65

AMPLITUDE 10641.15 5268.43 2656.10 1365.36 716.37 383.83 210.09 117.40 66.95 40.18  
 POSITION 55.00 55.00 55.00 55.00 55.00 55.00 55.00 55.00 55.00 70.00  
 (DEGREES)

PHASE -315.13 -315.13 -315.13 -315.13 -315.13 -315.13 -315.13 -315.13 -315.13 -300.13  
 (DEGREES)

THE UPPER LIMIT IS 80.00 GV

AD-A036 992

KIEL UNIV (WEST GERMANY) INSTITUT FUER REINE UND ANG--ETC F/G 4/1  
AN EXTENDED SET OF COSMIC RAY VARIATIONAL COEFFICIENTS FOR EURO--ETC(U)  
MAR 77 O H BINDER, M A SHEA, D F SMART

UNCLASSIFIED

IFKKI-76/11

AFGL-TR-77-0057

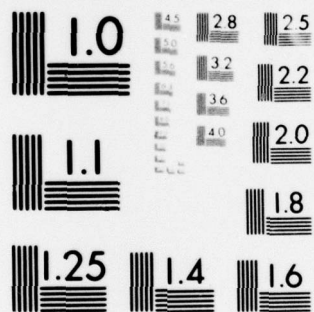
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2 of 2  
ADA036992



END

DATE  
FILMED  
4 - 77



MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A



KIEV  
GEOGRAPHIC LATITUDE = 50.72 GEOGRAPHIC LONGITUDE = 30.30  
SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY.LONG./BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	+0.0	-0.2
0	1005.54	440.67	193.41	85.03	37.44	16.51	7.30	3.23	1.43	0.65
5	1210.25	529.50	231.95	101.76	44.70	19.66	8.67	3.82	1.69	0.76
10	1603.09	715.34	320.47	144.34	65.47	30.01	13.98	6.65	3.28	1.70
15	1796.98	805.90	362.76	164.09	74.70	36.32	15.99	7.59	3.72	1.91
20	2608.63	1156.02	513.89	229.37	102.91	46.52	21.27	9.88	4.71	2.34
25	3789.93	1697.20	762.65	344.10	156.00	71.17	32.75	15.24	7.22	3.52
30	4879.59	2217.92	1012.79	464.89	214.63	99.77	46.78	22.15	10.64	5.22
35	5351.91	2435.75	1114.23	512.62	237.34	110.70	52.10	24.77	11.95	5.88
40	5678.45	2623.57	1219.54	570.65	268.94	127.76	61.25	29.66	14.56	7.26
45	6422.62	2986.48	1399.81	661.82	315.84	152.26	74.22	36.61	18.32	9.31
50	7419.40	3485.06	1651.73	790.44	382.21	186.87	92.46	46.32	23.53	12.14
55	8003.43	3807.67	1830.62	890.06	437.95	218.22	110.19	56.40	29.29	15.44
60	9307.16	4510.92	2216.88	1105.72	560.14	288.34	150.88	80.24	43.37	23.81
65	10534.69	5150.22	2555.84	1288.61	660.51	344.32	182.57	98.44	53.95	30.03
70	11013.50	5407.60	2696.94	1367.53	705.53	370.47	198.02	107.70	59.56	33.46
75	10875.95	5354.67	2679.80	1364.59	707.54	373.68	201.04	110.13	61.38	34.76
80	10092.82	5023.61	2541.41	1307.82	685.02	365.28	198.30	109.54	61.53	35.09
85	8945.51	4506.03	2309.04	1204.47	639.84	346.13	190.64	106.84	60.87	35.19
90	7894.61	4011.69	2076.86	1095.91	589.54	323.20	180.47	102.56	59.24	34.71
95	7456.28	3817.46	1991.81	1059.56	574.74	317.77	178.97	102.60	59.78	35.33
100	6720.65	3454.63	1811.61	969.48	529.42	294.84	167.30	96.63	56.71	33.75
105	5778.31	3002.81	1591.45	860.41	474.49	266.74	152.71	88.95	52.62	31.55
110	4822.26	2532.91	1359.72	746.01	418.14	239.19	139.45	82.75	49.88	30.47
115	4053.83	2126.49	1143.34	630.05	355.60	205.26	120.94	72.60	44.30	27.40
120	2559.80	1347.38	728.32	404.64	231.06	135.45	81.35	49.95	31.26	19.86
125	1143.43	630.72	359.12	211.02	127.77	79.46	50.57	32.81	21.62	14.40
130	278.16	192.22	133.00	92.11	63.90	44.38	30.86	21.50	15.00	10.46
135	228.20	159.31	111.35	77.89	54.58	38.28	26.88	18.91	13.32	9.38
140	199.68	140.25	98.61	69.38	48.89	34.48	24.34	17.21	12.18	8.62
145	181.56	128.12	90.52	64.00	45.32	32.12	22.80	16.20	11.53	8.21
150	161.95	115.91	83.05	59.53	42.74	30.70	22.09	15.90	11.47	8.27
155	127.96	92.31	66.66	48.15	34.83	25.20	18.27	13.24	9.62	6.99
160	127.96	92.31	66.66	48.15	34.83	25.20	18.27	13.24	9.62	6.99
165	127.96	92.31	66.66	48.15	34.83	25.20	18.27	13.24	9.62	6.99
170	93.61	68.35	49.97	36.52	26.73	19.56	14.34	10.51	7.73	5.67
175	90.50	66.32	48.67	35.70	26.22	19.25	14.16	10.42	7.69	5.66
180	76.41	55.99	41.09	30.12	22.11	16.21	11.91	8.75	6.45	4.74
185	60.54	44.52	32.79	24.12	17.77	13.07	9.63	7.10	5.25	3.87
190	54.16	39.80	29.29	21.53	15.85	11.65	8.58	6.32	4.67	3.44
195	47.78	35.08	25.79	18.94	13.93	10.23	7.53	5.54	4.09	3.01
200	47.78	35.08	25.79	18.94	13.93	10.23	7.53	5.54	4.09	3.01
205	31.91	23.61	17.49	12.94	9.59	7.09	5.25	3.89	2.89	2.14
210	12.76	9.44	7.00	5.18	3.84	2.84	2.10	1.56	1.16	0.86
215	17.35	13.02	9.78	7.35	5.53	4.15	3.12	2.36	1.78	1.34
220	17.35	13.02	9.78	7.35	5.53	4.15	3.12	2.36	1.78	1.34
225	17.35	13.02	9.78	7.35	5.53	4.15	3.12	2.36	1.78	1.34
230	10.97	8.30	6.28	4.76	3.61	2.73	2.07	1.58	1.20	0.91
235	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48
240	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48
245	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48
250	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48
255	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48
260	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48
265	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48
270	4.59	3.58	2.78	2.17	1.69	1.31	1.02	0.80	0.62	0.48
275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340	409.09	175.01	74.89	32.05	13.72	5.87	2.52	1.08	0.46	0.20
345	607.26	263.92	114.78	49.95	21.75	9.47	4.14	1.81	0.79	0.35
350	607.26	263.92	114.78	49.95	21.75	9.47	4.14	1.81	0.79	0.35
355	801.15	354.48	157.07	69.70	30.98	13.78	6.15	2.75	1.23	0.56

AMPLITUDE 11013.50 5407.60 2696.94 1367.53 707.54 373.68 201.04 110.13 61.53 35.33  
 POSITION 70.00 70.00 70.00 70.00 75.00 75.00 75.00 75.00 80.00 95.00  
 (DEGREES)

PHASE -320.30 -320.30 -320.30 -320.30 -315.30 -315.30 -315.30 -315.30 -310.30 -295.30  
 (DEGREES)

THE UPPER LIMIT IS 80.00 GV

LEEDS  
GEOGRAPHIC LATITUDE = 53.82 GEOGRAPHIC LONGITUDE = 358.45

SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY.LONG./BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	+0.0	-0.2
0	4761.14	2169.80	993.63	457.31	211.64	98.47	46.10	21.70	10.27	4.90
5	5114.13	2365.90	1101.41	516.13	243.57	115.76	55.44	26.74	13.00	6.37
10	5446.37	2537.03	1190.58	563.09	268.54	129.16	62.69	30.69	15.17	7.57
15	6470.57	3037.09	1439.19	689.00	333.50	163.28	80.92	40.59	20.62	10.61
20	7828.22	3782.86	1855.90	925.59	469.77	242.79	127.84	68.55	37.42	20.77
25	8628.85	4262.88	2141.32	1094.69	569.91	302.20	163.20	89.69	50.12	28.45
30	9683.43	4786.31	2405.90	1231.11	641.75	340.88	184.51	101.70	57.03	32.52
35	9634.00	4788.38	2422.50	1248.78	656.39	351.90	192.42	107.24	60.86	35.15
40	10022.71	4979.68	2519.55	1299.68	684.04	367.46	201.48	112.69	64.22	37.28
45	10620.54	5259.96	2652.97	1364.50	716.39	384.16	210.45	117.74	67.19	39.10
50	9498.57	4780.74	2451.35	1281.99	684.38	373.11	207.75	118.09	68.46	40.45
55	8098.35	4127.20	2146.35	1140.13	618.98	343.50	194.80	112.80	66.61	40.08
60	7675.03	3927.91	2053.28	1097.34	599.88	335.45	191.80	112.02	66.74	40.57
65	6943.89	3574.97	1882.08	1014.15	559.59	316.13	182.76	107.98	65.10	40.01
70	6424.13	3320.74	1756.43	951.45	528.04	300.16	174.65	103.87	63.04	39.00
75	5399.93	2820.68	1507.82	825.54	463.08	266.04	156.42	93.97	57.59	35.96
80	3865.15	1995.11	1056.12	574.38	321.38	185.07	109.65	66.74	41.64	26.59
85	2871.02	1434.62	737.64	392.02	216.17	123.94	73.88	45.67	29.16	19.16
90	1442.92	740.81	395.67	220.81	129.01	78.80	50.08	32.92	22.22	15.34
95	1301.70	653.20	340.69	185.92	106.64	64.31	40.61	26.68	18.08	12.57
100	912.99	461.90	243.64	135.02	78.99	48.75	31.55	21.23	14.72	10.44
105	131.76	96.94	71.43	52.68	38.91	28.80	21.34	15.82	11.75	8.75
110	89.43	66.76	49.89	37.30	27.92	20.94	15.71	11.79	8.86	6.68
115	61.88	46.63	35.18	26.55	20.06	15.19	11.50	8.71	6.60	5.03
120	40.47	31.05	23.83	18.29	14.04	10.80	8.30	6.38	4.90	3.79
125	26.03	20.32	15.87	12.39	9.66	7.57	5.90	4.61	3.59	2.83
130	22.90	17.88	13.97	10.91	8.51	6.67	5.20	4.07	3.17	2.50
135	22.90	17.88	13.97	10.91	8.51	6.67	5.20	4.07	3.17	2.50
140	13.50	10.56	8.27	6.48	5.06	3.98	3.11	2.44	1.90	1.51
145	11.34	8.92	7.04	5.56	4.37	3.47	2.73	2.17	1.70	1.37
150	5.07	4.04	3.24	2.60	2.07	1.68	1.34	1.08	0.86	0.71
155	6.04	4.84	3.91	3.16	2.53	2.07	1.66	1.35	1.08	0.90
160	6.04	4.84	3.91	3.16	2.53	2.07	1.66	1.35	1.08	0.90
165	2.91	2.40	2.01	1.68	1.38	1.17	0.96	0.81	0.66	0.57
170	3.88	3.20	2.68	2.24	1.84	1.56	1.28	1.08	0.88	0.76
175	3.88	3.20	2.68	2.24	1.84	1.56	1.28	1.08	0.88	0.76
180	3.88	3.20	2.68	2.24	1.84	1.56	1.28	1.08	0.88	0.76
185	3.88	3.20	2.68	2.24	1.84	1.56	1.28	1.08	0.88	0.76
190	3.88	3.20	2.68	2.24	1.84	1.56	1.28	1.08	0.88	0.76
195	3.88	3.20	2.68	2.24	1.84	1.56	1.28	1.08	0.88	0.76
200	4.85	4.00	3.35	2.80	2.30	1.95	1.60	1.35	1.10	0.95
205	4.85	4.00	3.35	2.80	2.30	1.95	1.60	1.35	1.10	0.95
210	4.85	4.00	3.35	2.80	2.30	1.95	1.60	1.35	1.10	0.95
215	3.88	3.20	2.68	2.24	1.84	1.56	1.28	1.08	0.88	0.76
220	4.85	4.00	3.35	2.80	2.30	1.95	1.60	1.35	1.10	0.95
225	4.85	4.00	3.35	2.80	2.30	1.95	1.60	1.35	1.10	0.95
230	3.88	3.20	2.68	2.24	1.84	1.56	1.28	1.08	0.88	0.76
235	3.88	3.20	2.68	2.24	1.84	1.56	1.28	1.08	0.88	0.76
240	3.88	3.20	2.68	2.24	1.84	1.56	1.28	1.08	0.88	0.76
245	2.91	2.40	2.01	1.68	1.38	1.17	0.96	0.81	0.66	0.57
250	2.91	2.40	2.01	1.68	1.38	1.17	0.96	0.81	0.66	0.57
255	2.91	2.40	2.01	1.68	1.38	1.17	0.96	0.81	0.66	0.57
260	1.94	1.60	1.34	1.12	0.92	0.78	0.64	0.54	0.44	0.38
265	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
270	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
275	0.97	0.80	0.67	0.56	0.46	0.39	0.32	0.27	0.22	0.19
280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	393.56	168.37	72.05	30.83	13.20	5.65	2.42	1.04	0.44	0.19
310	584.21	253.91	110.43	48.05	20.93	9.12	3.98	1.74	0.75	0.33
315	584.21	253.91	110.43	48.05	20.93	9.12	3.98	1.74	0.75	0.33
320	770.74	341.03	151.12	67.05	29.81	13.27	5.92	2.64	1.17	0.53
325	967.37	423.94	186.08	81.79	36.03	15.89	7.03	3.11	1.37	0.61
330	1347.16	599.20	267.27	119.54	53.65	24.14	10.91	4.94	2.24	1.02
335	1537.81	684.74	305.65	136.76	61.38	27.61	12.47	5.64	2.55	1.16
340	1537.81	684.74	305.65	136.76	61.38	27.61	12.47	5.64	2.55	1.16
345	1724.34	771.86	346.34	155.76	70.26	31.76	14.41	6.54	2.97	1.36
350	2888.64	1281.26	569.50	253.65	113.26	50.67	22.74	10.22	4.59	2.08
355	4316.41	1954.93	889.21	406.26	186.52	86.03	39.90	18.59	8.70	4.10

AMPLITUDE 10620.54 5259.96 2652.97 1364.50 716.39 384.16 210.45 118.09 68.46 40.52  
 POSITION 45.00 45.00 45.00 45.00 45.00 45.00 45.00 50.00 50.00 60.00  
 (DEGREES)

PHASE -673.45 -673.45 -673.45 -673.45 -673.45 -673.45 -673.45 -668.45 -668.45 -658.45  
 (DEGREES)

THE UPPER LIMIT IS 80.00 GV

DULU  
GEOGRAPHIC LATITUDE = 65.00    GEOGRAPHIC LONGITUDE = 25.42

SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY. LONG. / BETA =	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	+0.0	-0.2
0	1711.32	766.03	343.71	154.60	69.72	31.51	14.27	6.49	2.96	1.36
5	1711.32	766.03	343.71	154.60	69.72	31.51	14.27	6.49	2.96	1.36
10	2218.84	1020.22	471.14	218.55	101.84	47.66	22.40	10.59	5.03	2.40
15	3815.13	1746.44	804.05	372.46	173.66	81.51	38.53	18.36	8.82	4.27
20	4021.51	1857.71	863.33	403.79	190.13	90.15	43.06	20.74	10.07	4.93
25	4683.32	2195.69	1037.85	494.84	238.08	115.62	56.70	28.09	14.06	7.11
30	5018.54	2401.28	1164.08	572.42	285.82	145.04	74.84	39.29	20.99	11.39
35	6281.61	3125.36	1582.57	816.23	428.98	229.74	125.32	69.59	39.30	22.53
40	6775.53	3410.84	1752.67	919.98	493.39	270.27	151.09	86.12	49.98	29.48
45	7881.51	3992.91	2067.54	1095.56	594.49	330.42	188.01	109.45	65.10	39.50
50	8413.89	4256.29	2201.56	1166.13	633.16	352.57	201.29	117.76	70.52	43.15
55	9001.46	4561.80	2361.29	1250.38	678.17	377.07	214.97	125.64	75.24	46.10
60	9391.13	4735.67	2439.65	1286.33	695.17	385.52	219.49	128.28	76.95	47.30
65	9589.28	4820.46	2476.43	1302.70	702.78	389.32	221.59	129.58	77.84	47.96
70	9226.34	4642.22	2388.91	1259.72	681.68	378.97	216.51	127.09	76.63	47.38
75	7630.05	3916.00	2056.00	1105.81	609.86	345.12	200.38	119.32	72.84	45.51
80	7214.56	3726.76	1968.99	1065.38	590.85	336.06	196.00	117.16	71.76	44.96
85	6363.62	3303.96	1756.45	957.30	535.29	307.20	180.87	109.16	67.50	42.68
90	6028.87	3098.80	1630.62	880.08	487.88	278.09	163.02	98.22	60.81	38.67
95	4765.95	2374.86	1212.26	636.39	344.83	193.49	112.64	68.01	42.58	27.55
100	4279.76	2085.14	1036.48	528.23	277.53	151.21	85.86	50.92	31.60	20.44
105	2978.64	1420.78	686.91	338.02	170.26	88.46	47.84	27.13	16.28	10.34
110	2446.26	1157.40	552.89	267.45	131.59	66.31	34.56	18.82	10.86	6.69
115	1669.48	767.00	355.07	166.11	78.91	38.37	19.34	10.25	5.83	3.60
120	1289.83	588.96	271.03	125.93	59.27	28.41	14.00	7.17	3.90	2.28
125	1091.69	504.18	234.26	109.57	51.67	24.62	11.91	5.88	3.02	1.63
130	947.11	428.23	194.35	88.60	40.65	18.82	8.86	4.27	2.16	1.17
135	947.11	428.23	194.35	88.60	40.65	18.82	8.86	4.27	2.16	1.17
140	765.63	339.10	150.58	67.10	30.09	13.63	6.31	3.02	1.55	0.87
145	765.55	339.03	150.51	67.04	30.03	13.58	6.26	2.98	1.51	0.83
150	579.96	252.14	109.73	47.82	20.89	9.16	4.05	1.82	0.85	0.41
155	579.81	252.00	109.60	47.70	20.78	9.06	3.95	1.73	0.77	0.34
160	390.60	167.11	71.51	30.61	13.11	5.62	2.41	1.04	0.46	0.20
165	390.60	167.11	71.51	30.61	13.11	5.62	2.41	1.04	0.46	0.20
170	195.15	82.30	34.71	14.64	6.18	2.61	1.11	0.47	0.21	0.09
175	195.15	82.30	34.71	14.64	6.18	2.61	1.11	0.47	0.21	0.09
180	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
185	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
200	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
205	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
210	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
215	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
220	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
225	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
230	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
235	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
240	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
245	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
250	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
255	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
260	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
265	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
270	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
275	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
280	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
285	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
290	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
295	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
300	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
305	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
310	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
315	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
320	390.60	167.11	71.51	30.61	13.11	5.62	2.41	1.04	0.45	0.20
325	579.80	251.99	109.59	47.69	20.77	9.05	3.94	1.72	0.75	0.33
330	764.92	338.45	149.97	66.55	29.58	13.16	5.86	2.62	1.17	0.53
335	764.92	338.45	149.97	66.55	29.58	13.16	5.86	2.62	1.17	0.53
340	946.40	427.58	193.74	88.05	40.14	18.35	8.41	3.87	1.78	0.83
345	1141.54	509.87	228.44	102.68	46.31	20.95	9.51	4.33	1.98	0.91
350	1336.99	594.68	265.24	118.65	53.24	23.96	10.81	4.90	2.23	1.02
355	1526.20	679.57	303.33	135.74	60.91	27.40	12.35	5.59	2.54	1.16

AMPLITUDE	9589.28	4820.46	2476.43	1302.70	702.78	389.32	221.59	129.58	77.84	47.96
POSITION (DEGREES)	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00

PHASE (DEGREES)	-320.42	-320.42	-320.42	-320.42	-320.42	-320.42	-320.42	-320.42	-320.42	-320.42
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THE UPPER LIMIT IS 80.00 GV



PIC DU MIDI  
GEOGRAPHIC LATITUDE = 42.93 GEOGRAPHIC LONGITUDE = 0.25

SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY.LONG./BETA= +1.6 +1.4 +1.2 +1.0 +0.8 +0.6 +0.4 +0.2 +0.0 -0.2

0	4548.44	2032.80	911.76	410.75	186.07	84.92	39.12	18.28	8.70	4.25
5	5356.14	2407.18	1086.64	493.07	225.12	103.59	48.11	22.64	10.83	5.30
10	5934.44	2691.61	1226.84	562.33	259.41	120.61	56.57	26.86	12.94	6.36
15	6680.51	3059.67	1409.18	653.02	304.70	143.30	67.98	32.62	15.86	7.84
20	7045.19	3243.72	1502.76	700.95	329.44	156.15	74.71	36.16	17.73	8.84
25	8076.89	3751.47	1755.10	827.55	393.54	188.88	91.56	44.90	22.30	11.24
30	8671.63	4033.74	1891.64	894.91	427.43	206.25	100.62	49.70	24.88	12.64
35	9863.05	4628.05	2190.57	1046.59	505.09	246.37	121.54	60.71	30.72	15.77
40	10428.74	4926.47	2347.85	1129.55	548.94	269.63	133.93	67.35	34.30	17.71
45	10446.70	4970.84	2388.22	1159.08	568.50	281.84	141.25	71.59	36.69	19.00
50	10177.97	4901.73	2385.38	1173.48	583.80	293.75	149.50	76.97	40.09	21.10
55	9442.26	4604.25	2269.32	1130.93	570.03	290.61	149.84	78.15	41.22	21.97
60	8343.64	4123.15	2061.85	1043.52	534.54	277.08	145.29	77.06	41.32	22.38
65	7782.62	3901.13	1981.25	1019.65	531.79	280.99	150.37	81.48	44.68	24.77
70	7227.21	3631.29	1850.35	956.32	501.78	266.38	143.45	78.24	43.19	24.11
75	6195.52	3171.01	1647.39	868.67	464.78	252.18	138.67	77.22	43.51	24.79
80	5704.26	2946.85	1546.46	824.24	445.96	244.77	136.18	76.73	43.75	25.27
85	4816.55	2532.77	1355.12	737.42	407.83	229.01	130.44	75.27	43.95	25.95
90	4013.33	2153.13	1173.10	648.82	364.02	207.01	119.22	69.46	40.90	24.33
95	2660.29	1503.97	859.71	496.70	289.86	170.77	101.51	60.83	36.73	22.35
100	1929.06	1146.43	685.36	412.13	249.23	151.55	92.66	56.94	35.16	21.83
105	1483.41	900.26	549.16	336.67	207.36	128.29	79.73	49.74	31.15	19.60
110	1139.89	710.82	444.71	279.15	175.75	110.98	70.30	44.66	28.43	18.17
115	1020.19	641.18	404.31	255.80	162.32	103.30	65.95	42.21	27.07	17.43
120	873.63	559.07	358.71	230.77	148.82	96.20	62.36	40.50	26.36	17.22
125	626.95	406.71	264.43	172.32	112.52	73.62	48.29	31.72	20.87	13.78
130	621.43	403.73	262.89	171.58	112.21	73.53	48.30	31.77	20.94	13.84
135	487.18	321.02	211.88	140.10	92.77	61.52	40.89	27.19	18.11	12.09
140	396.53	263.66	175.50	116.98	78.05	52.13	34.88	23.34	15.64	10.50
145	252.54	169.99	114.50	77.20	52.08	35.16	23.77	16.06	10.87	7.37
150	270.55	182.38	123.02	83.06	56.11	37.93	25.68	17.37	11.77	7.99
155	230.60	157.03	106.96	72.90	49.70	33.89	23.15	15.78	10.78	7.37
160	177.84	121.42	82.92	56.67	38.74	26.49	18.15	12.40	8.50	5.83
165	177.49	122.22	84.18	58.00	39.98	27.56	19.03	13.11	9.05	6.26
170	142.10	98.22	67.90	46.95	32.48	22.47	15.58	10.76	7.46	5.18
175	124.09	85.83	59.38	41.09	28.45	19.70	13.67	9.45	6.56	4.56
180	88.74	61.11	42.09	29.00	19.99	13.78	9.52	6.55	4.52	3.13
185	88.74	61.11	42.09	29.00	19.99	13.78	9.52	6.55	4.52	3.13
190	71.37	49.50	34.33	23.81	16.52	11.46	7.97	5.52	3.83	2.67
195	53.36	37.11	25.81	17.95	12.49	8.69	6.06	4.21	2.93	2.05
200	53.36	37.11	25.81	17.95	12.49	8.69	6.06	4.21	2.93	2.05
205	53.36	37.11	25.81	17.95	12.49	8.69	6.06	4.21	2.93	2.05
210	35.35	24.72	17.29	12.09	8.46	5.92	4.15	2.90	2.03	1.43
215	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
220	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
225	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
270	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
275	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
280	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
285	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
290	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
295	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
300	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
305	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
310	17.34	12.33	8.77	6.23	4.43	3.15	2.24	1.59	1.13	0.81
315	455.22	199.65	88.92	40.53	19.11	9.44	4.93	2.74	1.62	1.02
320	672.45	297.12	132.65	60.15	27.91	13.39	6.70	3.54	1.98	1.18
325	655.11	284.79	123.88	53.92	23.48	10.24	4.46	1.95	0.85	0.37
330	863.59	382.16	169.36	75.16	33.40	14.87	6.62	2.96	1.32	0.59
335	1083.17	474.75	208.40	91.62	40.34	17.80	7.85	3.48	1.54	0.68
340	1301.47	569.48	249.51	109.46	48.08	21.16	9.31	4.11	1.81	0.80
345	1746.85	782.81	352.85	160.29	73.58	34.29	16.28	7.95	4.01	2.12
350	2394.49	1065.36	476.42	214.46	97.39	44.78	20.91	10.00	4.92	2.53
355	3267.91	1444.87	641.40	286.22	128.62	58.37	26.83	12.58	6.05	3.02

AMPLITUDE 10446.70 4970.84 2388.22 1173.48 583.80 293.75 150.37 81.48 44.68 25.95  
POSITION 45.00 45.00 45.00 50.00 50.00 50.00 65.00 65.00 65.00 85.00  
(DEGREES)

PHASE -315.25 -315.25 -315.25 -310.25 -310.25 -310.25 -295.25 -295.25 -295.25 -275.25  
(DEGREES)

THE UPPER LIMIT IS 80.00 GV

ROME  
 GEOGRAPHIC LATITUDE = 41.90 GEOGRAPHIC LONGITUDE = 12.52  
 SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY.LONG./BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	+0.0	-0.2
0	2077.44	929.92	417.25	187.68	84.61	38.25	17.32	7.88	3.60	1.65
5	2788.49	1232.66	546.17	242.59	108.00	48.22	21.57	9.69	4.37	1.98
10	4404.32	1957.73	872.28	389.61	174.44	78.32	35.24	15.92	7.21	3.28
15	5491.43	2466.02	1111.22	502.55	228.11	103.96	47.56	21.87	10.10	4.69
20	6173.73	2782.13	1258.05	570.93	260.03	118.90	54.57	25.16	11.65	5.47
25	6754.41	3069.56	1401.14	642.56	296.06	137.11	63.82	29.88	14.06	6.66
30	7690.45	3525.57	1624.38	752.40	350.38	164.11	77.32	36.65	17.48	8.40
35	8052.28	3700.01	1709.90	795.03	371.96	175.19	83.09	39.69	19.09	9.26
40	9164.11	4256.68	1990.80	937.85	445.11	212.93	102.69	49.93	24.48	12.11
45	9985.49	4650.62	2182.17	1032.04	492.09	236.66	114.83	56.21	27.76	13.84
50	10545.28	4949.98	2342.33	1117.89	538.26	261.58	128.35	63.57	31.79	16.06
55	10882.47	5145.26	2453.80	1180.89	573.64	281.36	139.37	69.71	35.21	17.96
60	10994.31	5232.92	2515.18	1221.37	599.39	297.35	149.14	75.61	38.75	20.07
65	10632.17	5122.71	2492.78	1225.55	608.86	305.71	155.14	79.54	41.21	21.56
70	9137.20	4470.00	2210.02	1104.52	558.01	284.97	147.09	76.69	40.40	21.48
75	8237.59	4074.90	2039.47	1032.94	529.37	274.50	143.97	76.32	40.90	22.13
80	7676.70	3828.45	1932.71	987.67	510.82	267.31	141.47	75.66	40.89	22.30
85	7065.15	3566.42	1823.82	944.84	495.75	263.35	141.56	76.93	42.27	23.44
90	5963.52	3053.00	1584.87	834.04	444.76	240.18	131.25	72.51	40.49	22.81
95	5463.01	2831.15	1487.19	791.58	426.74	232.85	128.51	71.66	40.38	22.95
100	4453.06	2339.03	1247.20	674.70	370.04	205.55	115.53	65.63	37.66	21.80
105	3263.67	1799.54	1002.36	563.84	320.19	183.47	106.02	61.74	36.24	21.41
110	2484.66	1408.98	805.18	463.60	268.87	157.02	92.30	54.59	32.50	19.44
115	1793.28	1063.38	633.11	378.44	227.09	136.79	82.70	50.17	30.56	18.66
120	1489.77	892.85	537.48	324.94	197.25	120.22	73.55	45.15	27.83	17.19
125	1185.43	729.76	450.43	278.75	172.95	107.58	67.08	41.93	26.28	16.49
130	1082.61	669.16	414.74	257.76	160.62	100.34	62.84	39.45	24.84	15.65
135	911.64	567.02	353.73	221.33	138.89	87.37	55.11	34.85	22.11	14.03
140	790.23	497.36	313.66	198.22	125.52	79.62	50.60	32.22	20.57	13.13
145	618.78	394.88	252.39	161.59	103.62	66.54	42.79	27.56	17.79	11.47
150	563.64	360.38	230.80	148.09	95.18	61.26	39.49	25.50	16.51	10.67
155	493.08	318.80	206.39	133.82	86.88	56.48	36.75	23.96	15.65	10.20
160	391.20	254.25	165.48	107.88	70.43	46.04	30.13	19.75	12.98	8.50
165	334.56	220.06	144.86	95.47	62.99	41.59	27.48	18.18	12.05	7.96
170	336.97	222.36	146.87	97.12	64.30	42.62	28.26	18.77	12.48	8.28
175	241.17	161.43	108.10	72.44	48.58	32.60	21.87	14.69	9.88	6.62
180	208.11	139.34	93.33	62.57	41.98	28.19	18.92	12.72	8.56	5.74
185	163.54	109.90	73.86	49.67	33.42	22.50	15.14	10.20	6.88	4.62
190	145.50	98.14	66.20	44.67	30.16	20.38	13.76	9.30	6.29	4.24
195	128.97	87.09	58.82	39.74	26.86	18.18	12.29	8.32	5.63	3.80
200	128.97	87.09	58.82	39.74	26.86	18.18	12.29	8.32	5.63	3.80
205	94.40	64.28	43.77	29.81	20.31	13.85	9.43	6.43	4.38	2.98
210	77.87	53.23	36.39	24.88	17.01	11.65	7.96	5.45	3.72	2.54
215	57.42	39.17	26.72	18.23	12.44	8.50	5.80	3.96	2.70	1.84
220	94.39	64.28	43.77	29.81	20.31	13.85	9.44	6.43	4.38	2.98
225	57.42	39.17	26.72	18.23	12.44	8.50	5.80	3.96	2.70	1.84
230	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
235	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
240	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
245	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
250	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
255	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
260	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
265	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
270	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
275	36.97	25.11	17.05	11.58	7.87	5.35	3.64	2.47	1.68	1.14
280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	236.89	99.89	42.12	17.76	7.49	3.16	1.33	0.56	0.24	0.10
330	474.15	202.85	86.80	37.15	15.90	6.81	2.91	1.25	0.54	0.23
335	703.84	305.90	133.04	57.90	25.21	10.99	4.78	2.09	0.92	0.40
340	703.84	305.90	133.04	57.90	25.21	10.99	4.78	2.09	0.92	0.40
345	1165.46	510.75	224.18	98.56	43.39	19.14	8.44	3.74	1.67	0.74
350	1402.72	613.71	268.86	117.95	51.80	22.79	10.02	4.43	1.97	0.87
355	1852.71	824.96	368.23	164.79	73.92	33.26	14.99	6.79	3.09	1.41

AMPLITUDE 10994.31 5232.92 2515.18 1225.55 608.86 305.71 155.14 79.54 42.27 23.44  
 POSITION 60.00 60.00 60.00 65.00 65.00 65.00 65.00 65.00 65.00 65.00  
 (DEGREES)

PHASE -312.52 -312.52 -312.52 -307.52 -307.52 -307.52 -307.52 -307.52 -287.52 -287.52  
 (DEGREES)

THE UPPER LIMIT IS 80.00 GV

UTRECHT  
GEOGRAPHIC LATITUDE = 52.06    GEOGRAPHIC LONGITUDE = 5.07

SQUARE WAVE REPRESENTATION - SIZE = 60 DEGREES

ASY. LONG. BETA=	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	+0.0	-0.2
0	3707.73	1658.88	744.30	334.92	151.16	68.41	31.06	14.13	6.46	2.95
5	4775.04	2168.92	989.31	453.23	208.59	96.43	44.80	20.90	9.81	4.62
10	5037.47	2297.86	1053.07	484.97	224.50	104.47	48.88	23.00	10.89	5.19
15	5593.63	2587.26	1204.05	563.94	265.92	126.26	60.37	29.08	14.12	6.91
20	6012.04	2794.82	1309.19	618.26	294.48	141.52	68.63	33.60	16.62	8.30
25	7138.82	3361.48	1598.12	767.61	372.71	183.03	90.92	45.70	23.25	11.97
30	8262.02	3986.29	1949.34	967.07	487.13	249.29	129.64	68.52	36.80	20.07
35	9156.86	4510.52	2258.04	1149.79	595.84	314.30	168.72	92.14	51.14	28.82
40	9902.47	4894.12	2459.19	1257.45	654.72	347.23	187.54	103.13	57.68	32.78
45	10300.55	5084.97	2553.35	1305.37	679.91	360.90	195.20	107.54	60.28	34.35
50	10726.12	5294.86	2659.05	1360.01	709.03	376.98	204.41	113.01	63.64	36.47
55	9990.37	4992.63	2538.99	1315.29	694.62	374.12	205.50	115.08	65.64	38.09
60	8833.30	4462.55	2295.33	1202.91	642.62	349.98	194.26	109.83	63.18	36.93
65	7803.18	3578.96	2069.13	1097.97	594.70	328.72	185.33	106.48	62.26	36.99
70	7361.85	3780.46	1980.15	1058.47	577.52	321.55	182.59	105.64	62.19	37.19
75	6626.98	3419.92	1802.97	971.53	535.12	301.15	173.02	101.36	60.44	36.63
80	6026.96	3134.52	1665.61	904.75	502.44	285.14	165.24	97.65	58.75	35.93
85	4738.31	2499.65	1350.23	747.00	423.18	245.27	145.27	87.77	53.99	33.74
90	3615.11	1874.84	999.01	547.54	308.76	179.01	106.55	64.95	40.44	25.64
95	2535.76	1277.93	663.49	356.39	198.64	115.02	69.11	42.93	27.46	17.98
100	1403.47	715.89	379.68	210.29	121.82	73.69	46.34	30.08	20.04	13.60
105	811.28	437.95	246.45	144.84	88.76	56.49	37.10	24.96	17.12	11.89
110	198.98	141.84	101.25	72.35	51.77	37.10	26.63	19.12	13.76	9.90
115	139.72	101.14	73.28	53.13	38.55	28.01	20.37	14.81	10.79	7.86
120	146.10	106.11	77.15	56.14	40.89	29.83	21.79	15.91	11.65	8.53
125	112.10	82.14	60.27	44.27	32.55	23.98	17.69	13.04	9.65	7.13
130	90.80	67.28	49.89	37.02	27.49	20.44	15.22	11.31	8.44	6.28
135	75.38	56.38	42.21	31.62	23.70	17.79	13.38	10.03	7.57	5.68
140	66.07	49.61	37.29	28.05	21.12	15.92	12.03	9.06	6.87	5.18
145	38.02	29.12	22.31	17.10	13.11	10.06	7.74	5.92	4.57	3.50
150	38.02	29.12	22.31	17.10	13.11	10.06	7.74	5.92	4.57	3.50
155	22.33	17.38	13.53	10.52	8.19	6.37	4.97	3.85	3.01	2.33
160	22.33	17.38	13.53	10.52	8.19	6.37	4.97	3.85	3.01	2.33
165	22.33	17.38	13.53	10.52	8.19	6.37	4.97	3.85	3.01	2.33
170	19.14	14.90	11.60	9.02	7.02	5.46	4.26	3.30	2.58	2.00
175	19.14	14.90	11.60	9.02	7.02	5.46	4.26	3.30	2.58	2.00
180	12.76	9.93	7.73	6.01	4.68	3.64	2.84	2.20	1.72	1.33
185	9.57	7.45	5.80	4.51	3.51	2.73	2.13	1.65	1.29	1.00
190	9.57	7.45	5.80	4.51	3.51	2.73	2.13	1.65	1.29	1.00
195	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
210	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
215	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
220	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
225	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
230	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
235	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
240	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
245	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
250	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
255	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
260	3.19	2.48	1.93	1.50	1.17	0.91	0.71	0.55	0.43	0.33
265	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310	200.20	84.42	35.60	15.01	6.33	2.67	1.13	0.47	0.20	0.08
315	400.71	171.43	73.35	31.39	13.44	5.75	2.47	1.05	0.45	0.19
320	594.82	258.52	112.42	48.92	21.31	9.28	4.05	1.76	0.77	0.33
325	784.74	347.22	153.85	68.27	30.35	13.50	6.02	2.68	1.20	0.53
330	784.74	347.22	153.85	68.27	30.35	13.50	6.02	2.68	1.20	0.53
335	984.94	431.64	189.45	83.28	36.68	16.17	7.15	3.15	1.40	0.61
340	1371.62	610.08	272.11	121.72	54.62	24.57	11.10	5.01	2.28	1.03
345	1565.73	697.17	311.18	139.25	62.49	28.10	12.68	5.72	2.60	1.17
350	1755.65	785.87	352.61	158.60	71.53	32.32	14.65	6.64	3.03	1.37
355	2550.66	1128.80	500.64	222.54	99.16	44.27	19.82	8.88	4.00	1.79

AMPLITUDE    10726.12   5294.86   2659.05   1360.01   709.03   376.98   205.50   115.08   65.64   38.09  
POSITION       50.00    50.00    50.00    50.00    50.00    50.00    55.00    55.00    55.00    55.00  
(DEGREES)

PHASE           -315.07   -315.07   -315.07   -315.07   -315.07   -315.07   -310.07   -310.07   -310.07   -310.07  
(DEGREES)

THE UPPER LIMIT IS    80.00 GV



## APPENDIX C

### AMPLITUDES AND PHASES OF THE STATION RESPONSES TO SELECTED SQUARE WAVES AND ISOTROPIC MODULATIONS

The following section lists the amplitudes and phases of the station responses to  $10^\circ$ ,  $30^\circ$  and  $60^\circ$  square waves and isotropic ( $360^\circ$ ) modulations as a function of the upper limiting rigidity. The exponent of the spectrum ( $\beta$ ) ranges from +1.6 to -0.2 while the upper limiting rigidity ranges from 29 to 500 GV.

APATITY  
GEOGRAPHIC LATITUDE = 67.55    GEOGRAPHIC LONGITUDE = 33.33  
SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 900.00 GV											
10	AMPL.	24366.06	8336.17	2909.93	1040.02	383.10	149.91	89.51	54.20	33.20	20.55
	PHASE	11.67	11.67	11.67	11.67	16.67	36.67	36.67	36.67	36.67	36.67
30	AMPL.	33714.90	11749.60	4214.89	1653.64	731.68	345.80	186.67	109.95	67.15	42.25
	PHASE	16.67	16.67	16.67	26.67	26.67	26.67	41.67	41.67	41.67	41.67
60	AMPL.	58142.66	19472.82	6846.12	2778.96	1206.80	563.18	282.14	150.88	85.39	50.71
	PHASE	-13.33	-13.33	31.67	31.67	31.67	31.67	31.67	31.67	31.67	36.67
360	AMPL.	96997.78	33960.61	12332.62	4690.47	1888.16	812.25	375.77	187.20	100.02	56.88
UPPER LIMIT = 188.75 GV											
10	AMPL.	9411.52	3737.74	1499.76	608.85	255.24	149.91	89.51	54.20	33.20	20.55
	PHASE	16.67	16.67	16.67	16.67	36.67	36.67	36.67	36.67	36.67	36.67
30	AMPL.	13529.23	5871.18	2636.72	1230.92	599.06	310.59	180.09	107.88	66.49	42.04
	PHASE	26.67	26.67	26.67	26.67	26.67	41.67	41.67	41.67	41.67	41.67
60	AMPL.	22403.28	9667.90	4309.30	1994.78	963.48	487.08	258.01	143.05	82.97	49.97
	PHASE	41.67	41.67	41.67	41.67	41.67	41.67	41.67	41.67	36.67	36.67
360	AMPL.	34521.81	14497.52	6255.10	2788.23	1291.36	624.57	316.62	168.53	94.07	54.99
UPPER LIMIT = 111.25 GV											
10	AMPL.	4572.19	1961.24	847.61	443.34	255.24	149.91	89.51	54.20	33.20	20.55
	PHASE	16.67	16.67	16.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67
30	AMPL.	8689.90	4094.68	1984.57	991.52	527.70	299.84	176.15	106.43	65.96	41.84
	PHASE	26.67	26.67	26.67	26.67	36.67	41.67	41.67	41.67	41.67	41.67
60	AMPL.	14337.73	6707.06	3222.39	1595.78	817.01	435.04	240.06	137.06	80.85	49.18
	PHASE	41.67	41.67	41.67	41.67	41.67	36.67	36.67	36.67	36.67	36.67
360	AMPL.	20003.82	9168.01	4298.67	2070.03	1027.72	527.80	281.08	155.48	89.29	53.21
UPPER LIMIT = 80.00 GV											
10	AMPL.	2048.88	1100.54	650.36	387.44	232.63	140.76	85.83	52.71	32.60	20.31
	PHASE	46.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67
30	AMPL.	5320.87	2812.64	1524.43	847.18	482.48	281.54	168.77	103.45	64.75	41.36
	PHASE	36.67	36.67	36.67	36.67	36.67	41.67	41.67	41.67	41.67	41.67
60	AMPL.	9589.29	4820.47	2476.43	1302.71	702.80	389.31	221.59	129.59	77.82	47.96
	PHASE	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67
360	AMPL.	12392.34	6090.73	3054.43	1566.93	824.24	445.49	247.82	142.01	83.84	51.00
UPPER LIMIT = 50.00 GV											
10	AMPL.	1877.64	1100.54	650.36	387.44	232.63	140.76	85.83	52.71	32.60	20.31
	PHASE	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67
30	AMPL.	3949.90	2197.02	1249.44	728.29	431.53	260.01	159.35	99.30	62.93	40.57
	PHASE	46.67	46.67	41.67	41.67	41.67	41.67	41.67	41.67	41.67	41.67
60	AMPL.	6110.46	3308.52	1818.88	1016.55	578.19	335.03	197.92	119.24	73.31	46.00
	PHASE	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67
360	AMPL.	7174.11	3822.81	2068.11	1137.70	637.32	364.06	212.31	126.51	77.07	48.06
UPPER LIMIT = 29.00 GV											
10	AMPL.	1696.16	1011.42	606.58	365.94	222.07	135.58	83.28	51.46	31.98	20.01
	PHASE	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67
30	AMPL.	3037.46	1790.39	1065.43	640.47	389.11	239.04	148.54	93.75	60.25	39.27
	PHASE	36.67	36.67	36.67	36.67	36.67	36.67	36.67	41.67	41.67	41.67
60	AMPL.	3729.38	2165.87	1270.19	752.91	451.44	274.05	168.58	105.10	66.50	42.70
	PHASE	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67	31.67
360	AMPL.	3874.71	2242.52	1310.74	774.48	463.02	280.37	172.11	107.17	67.78	43.56

ATHENS  
GEOGRAPHIC LATITUDE = 37.97 GEOGRAPHIC LONGITUDE = 23.72  
SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 500.00 GV										
10 AMPL.	36315.70	11434.84	3645.22	1238.24	425.88	152.46	59.25	23.25	9.27	4.69
PHASE	6.28	6.28	11.28	11.28	11.28	16.28	16.28	16.28	46.28	61.28
30 AMPL.	69802.42	23433.22	8031.39	2800.22	994.74	360.51	133.87	54.30	25.50	13.02
PHASE	6.28	16.28	16.28	16.28	16.28	16.28	21.28	26.28	61.28	61.28
60 AMPL.	104592.00	35746.70	12475.14	4457.17	1634.28	621.40	248.50	106.40	48.14	22.64
PHASE	21.28	21.28	21.28	21.28	21.28	31.28	31.28	41.28	41.28	46.28
360 AMPL.	136161.90	47440.81	17071.60	6388.48	2503.02	1032.46	449.73	206.72	100.01	50.57
UPPER LIMIT = 188.75 GV										
10 AMPL.	16291.66	6223.43	2388.71	921.77	357.84	139.86	55.08	21.87	9.00	4.69
PHASE	16.28	16.28	16.28	16.28	16.28	16.28	16.28	16.28	61.28	61.28
30 AMPL.	26622.84	10545.77	4213.32	1699.08	692.10	284.96	118.66	50.00	25.04	12.87
PHASE	26.28	26.28	26.28	26.28	26.28	26.28	26.28	26.28	61.28	61.28
60 AMPL.	36539.38	14956.26	6211.14	2620.50	1124.56	491.34	218.67	99.18	45.83	22.29
PHASE	41.28	41.28	41.28	41.28	41.28	41.28	41.28	41.28	41.28	61.28
360 AMPL.	48028.37	19984.63	8498.21	3705.05	1661.16	767.71	366.29	180.39	91.66	47.93
UPPER LIMIT = 111.25 GV										
10 AMPL.	6677.51	2758.60	1141.46	473.13	196.47	81.74	34.13	17.44	9.00	4.69
PHASE	21.28	21.28	21.28	21.28	21.28	21.28	41.28	61.28	61.28	61.28
30 AMPL.	13993.81	5994.75	2582.68	1119.51	488.47	214.63	97.84	47.69	24.29	12.60
PHASE	31.28	31.28	31.28	31.28	31.28	31.28	51.28	51.28	61.28	61.28
60 AMPL.	20697.64	9183.65	4118.08	1867.69	857.35	398.58	187.70	89.59	43.34	21.74
PHASE	46.28	46.28	46.28	46.28	46.28	46.28	46.28	46.28	46.28	61.28
360 AMPL.	27548.15	12466.38	5738.27	2691.90	1289.24	631.18	316.16	161.99	84.90	45.45
UPPER LIMIT = 80.00 GV										
10 AMPL.	2695.61	1215.62	573.71	273.10	131.14	64.27	32.81	16.90	8.78	4.64
PHASE	26.28	46.28	46.28	46.28	46.28	61.28	61.28	61.28	61.28	66.28
30 AMPL.	7074.07	3255.58	1508.13	729.99	359.26	178.31	89.23	45.11	23.44	12.26
PHASE	36.28	36.28	51.28	56.28	56.28	56.28	56.28	61.28	61.28	61.28
60 AMPL.	12346.36	5807.30	2752.93	1315.67	634.12	308.29	151.20	76.45	39.61	20.71
PHASE	46.28	46.28	46.28	46.28	46.28	46.28	46.28	56.28	61.28	61.28
360 AMPL.	16810.79	8125.36	3983.07	1982.16	1002.23	515.10	269.23	143.01	77.23	42.36
UPPER LIMIT = 50.00 GV										
10 AMPL.	1494.25	759.63	391.23	202.52	105.39	55.14	29.00	15.45	8.27	4.44
PHASE	41.28	71.28	71.28	71.28	71.28	71.28	71.28	66.28	66.28	66.28
30 AMPL.	3994.18	2026.35	1032.35	531.30	276.30	144.33	75.74	39.94	21.15	11.24
PHASE	56.28	56.28	56.28	61.28	61.28	61.28	61.28	61.28	61.28	61.28
60 AMPL.	6761.08	3423.60	1744.64	900.58	467.26	243.66	127.72	67.30	35.63	18.97
PHASE	56.28	56.28	61.28	61.28	61.28	61.28	61.28	61.28	61.28	71.28
360 AMPL.	9449.55	4926.05	2591.70	1376.69	738.57	400.19	219.12	121.15	67.66	38.18
UPPER LIMIT = 29.00 GV										
10 AMPL.	859.17	467.31	254.49	138.75	75.75	41.40	22.66	12.42	6.81	3.74
PHASE	66.28	66.28	66.28	66.28	66.28	66.28	66.28	66.28	66.28	66.28
30 AMPL.	2075.88	1123.10	611.33	337.42	186.58	103.35	57.36	31.89	17.76	9.91
PHASE	61.28	61.28	76.28	76.28	76.28	76.28	76.28	76.28	76.28	76.28
60 AMPL.	3326.71	1820.02	997.70	548.02	301.66	166.39	91.99	51.19	28.85	16.35
PHASE	71.28	71.28	71.28	71.28	71.28	71.28	71.28	76.28	86.28	86.28
360 AMPL.	4795.17	2696.77	1523.29	864.32	492.70	282.15	162.42	93.87	54.53	31.85



DOUGLAS  
 GEOGRAPHIC LATITUDE = 50.10    GEOGRAPHIC LONGITUDE = 4.60  
 SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 900.00 GV										
10 AMPL.	23776.03	7881.30	2636.20	907.00	335.02	158.45	84.17	46.95	26.81	15.60
PHASE	10.40	10.40	10.40	15.40	15.40	55.40	60.40	60.40	60.40	60.40
30 AMPL.	44280.10	15112.64	5261.28	1872.78	683.09	328.36	167.46	88.65	50.02	28.86
PHASE	15.40	15.40	15.40	15.40	15.40	50.40	50.40	60.40	60.40	60.40
60 AMPL.	69219.99	23144.65	8465.18	3227.26	1322.37	575.62	269.19	133.06	68.70	37.59
PHASE	350.40	10.40	30.40	30.40	35.40	35.40	40.40	40.40	45.40	45.40
360 AMPL.	100502.30	35179.42	12768.74	4851.19	1948.87	835.27	384.15	189.61	99.98	55.91
UPPER LIMIT = 188.75 GV										
10 AMPL.	12185.20	4655.27	1785.70	687.97	295.47	155.15	84.17	46.95	26.81	15.60
PHASE	15.40	15.40	15.40	15.40	60.40	60.40	60.40	60.40	60.40	60.40
30 AMPL.	18648.08	7432.15	2997.63	1225.38	603.01	306.75	160.64	86.50	49.34	28.65
PHASE	25.40	25.40	25.40	25.40	50.40	50.40	50.40	60.40	60.40	60.40
60 AMPL.	28546.02	12034.17	5202.92	2315.25	1063.65	505.52	248.76	126.62	67.34	37.17
PHASE	40.40	40.40	40.40	40.40	40.40	40.40	40.40	40.40	45.40	45.40
360 AMPL.	35757.68	15009.58	6470.55	2879.90	1330.40	640.77	322.84	170.25	93.86	53.95
UPPER LIMIT = 111.25 GV										
10 AMPL.	5478.87	2304.32	972.83	500.82	265.11	144.01	80.08	45.45	26.26	15.40
PHASE	20.40	20.40	20.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40
30 AMPL.	9411.30	4318.00	2111.91	1057.63	542.29	284.47	152.66	85.00	48.79	28.45
PHASE	30.40	50.40	50.40	50.40	50.40	50.40	55.40	60.40	60.40	60.40
60 AMPL.	16910.28	7787.89	3660.67	1759.93	866.89	437.94	226.99	120.65	65.68	36.72
PHASE	45.40	45.40	45.40	45.40	45.40	45.40	45.40	45.40	45.40	60.40
360 AMPL.	20712.49	9486.53	4443.05	2135.60	1057.17	540.48	286.01	156.74	88.89	52.14
UPPER LIMIT = 80.00 GV										
10 AMPL.	2914.96	1506.19	795.32	428.89	235.92	132.16	75.27	43.50	25.47	15.08
PHASE	60.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40
30 AMPL.	6404.45	3255.01	1682.12	883.83	472.25	258.66	144.02	81.90	47.54	27.94
PHASE	50.40	50.40	50.40	50.40	55.40	55.40	55.40	60.40	60.40	60.40
60 AMPL.	10775.27	5307.57	2657.81	1354.41	702.90	371.61	200.17	109.79	61.30	35.95
PHASE	45.40	45.40	45.40	45.40	45.40	45.40	45.40	45.40	45.40	60.40
360 AMPL.	12824.62	6297.55	3153.66	1614.21	846.32	455.71	251.53	142.78	83.24	49.86
UPPER LIMIT = 50.00 GV										
10 AMPL.	1909.34	1071.88	607.65	347.76	200.83	116.98	68.69	40.65	24.23	14.54
PHASE	60.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40
30 AMPL.	4399.35	2383.69	1303.27	722.22	406.55	231.51	133.33	77.63	45.66	27.10
PHASE	50.40	50.40	50.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40
60 AMPL.	6595.53	3497.34	1874.86	1016.60	557.78	309.74	174.09	99.04	57.96	34.58
PHASE	50.40	50.40	50.40	50.40	50.40	50.40	50.40	50.40	60.40	60.40
360 AMPL.	7416.94	3947.25	2131.53	1169.41	652.62	370.82	214.73	126.74	76.24	46.79
UPPER LIMIT = 29.00 GV										
10 AMPL.	1529.43	889.91	520.45	305.93	180.76	107.34	64.06	38.42	23.16	14.02
PHASE	60.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40	60.40
30 AMPL.	3071.54	1745.43	996.30	571.28	330.42	193.81	114.82	68.72	41.37	25.05
PHASE	50.40	50.40	50.40	50.40	55.40	55.40	60.40	60.40	60.40	60.40
60 AMPL.	3795.81	2164.00	1241.58	717.04	417.01	244.23	144.09	85.83	51.96	31.70
PHASE	55.40	55.40	55.40	55.40	55.40	55.40	55.40	60.40	60.40	60.40
360 AMPL.	3997.71	2309.57	1346.67	793.02	472.01	284.10	173.07	106.70	66.60	42.16

JUNGFRAUJOCH  
GEOGRAPHIC LATITUDE = 46.55 GEOGRAPHIC LONGITUDE = 7.98  
SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 500.00 GV										
10 AMPL.	27101.53	8761.58	2857.71	941.84	317.90	113.90	47.42	26.41	14.85	8.43
PHASE	7.02	7.02	7.02	7.02	12.02	12.02	67.02	67.02	67.02	67.02
30 AMPL.	46715.84	15591.18	5419.40	1922.77	697.64	259.27	123.01	65.00	35.52	20.77
PHASE	-2.98	17.02	17.02	17.02	17.02	17.02	62.02	62.02	67.02	72.02
60 AMPL.	70303.35	23734.31	8273.47	3075.94	1197.37	494.05	215.92	108.04	58.11	32.26
PHASE	7.02	7.02	27.02	32.02	32.02	37.02	37.02	57.02	57.02	67.02
360 AMPL.	98497.67	34568.24	12585.09	4797.79	1934.42	832.03	383.69	189.72	99.98	55.72
UPPER LIMIT = 188.75 GV										
10 AMPL.	8813.88	3417.77	1331.48	521.25	205.11	86.76	47.42	26.41	14.85	8.43
PHASE	17.02	17.02	17.02	17.02	17.02	57.02	67.02	67.02	67.02	67.02
30 AMPL.	17730.65	7021.83	2809.19	1136.47	465.38	226.09	116.40	63.29	35.52	20.77
PHASE	22.02	22.02	22.02	22.02	22.02	57.02	62.02	67.02	67.02	72.02
60 AMPL.	27539.01	11401.57	4807.19	2068.51	910.14	421.97	201.34	103.86	56.79	32.05
PHASE	37.02	37.02	37.02	37.02	37.02	42.02	42.02	57.02	57.02	67.02
360 AMPL.	35724.52	15006.56	6474.95	2884.80	1334.07	643.20	324.15	170.89	94.01	53.83
UPPER LIMIT = 111.25 GV										
10 AMPL.	4154.79	1757.73	745.93	348.83	171.86	86.36	47.42	26.41	14.85	8.43
PHASE	22.02	22.02	22.02	62.02	62.02	62.02	67.02	67.02	67.02	67.02
30 AMPL.	9032.64	3959.14	1773.90	849.78	419.71	215.00	112.33	61.79	35.29	20.77
PHASE	32.02	32.02	52.02	52.02	57.02	57.02	62.02	67.02	72.02	72.02
60 AMPL.	16342.34	7400.08	3402.10	1590.12	756.43	368.39	186.04	100.87	55.70	31.85
PHASE	42.02	42.02	42.02	42.02	42.02	47.02	57.02	57.02	57.02	67.02
360 AMPL.	20757.88	5512.34	4458.04	2144.40	1062.27	543.43	287.52	157.44	89.08	52.02
UPPER LIMIT = 80.00 GV										
10 AMPL.	2393.37	1168.88	578.91	292.45	157.74	86.02	47.42	26.41	14.85	8.43
PHASE	62.02	62.02	62.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02
30 AMPL.	5598.31	2785.41	1405.17	718.86	372.90	196.74	107.51	60.24	34.67	20.51
PHASE	57.02	57.02	57.02	57.02	57.02	62.02	62.02	67.02	72.02	72.02
60 AMPL.	10264.61	4979.25	2447.26	1219.55	616.51	321.59	174.55	96.22	53.82	31.07
PHASE	47.02	47.02	47.02	47.02	47.02	57.02	57.02	57.02	57.02	67.02
360 AMPL.	12879.01	6326.77	3169.95	1623.51	851.61	458.21	253.05	143.49	83.45	49.72
UPPER LIMIT = 50.00 GV										
10 AMPL.	1793.23	949.91	508.05	274.38	149.63	82.38	45.78	25.68	14.52	8.28
PHASE	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02
30 AMPL.	3788.16	1998.51	1076.24	585.61	321.40	177.89	99.28	56.65	33.30	19.91
PHASE	57.02	57.02	62.02	62.02	62.02	62.02	62.02	67.02	72.02	72.02
60 AMPL.	6254.30	3275.10	1730.41	928.26	507.31	280.24	156.46	88.31	50.75	29.89
PHASE	52.02	52.02	52.02	57.02	57.02	57.02	57.02	57.02	67.02	67.02
360 AMPL.	7448.55	3966.09	2143.06	1176.52	656.91	373.35	216.03	127.36	76.38	46.62
UPPER LIMIT = 29.00 GV										
10 AMPL.	1020.87	579.83	330.62	189.26	108.77	62.76	36.35	21.14	12.34	7.23
PHASE	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02
30 AMPL.	2378.06	1344.68	763.27	434.92	248.82	144.37	86.07	51.61	31.12	18.86
PHASE	62.02	62.02	62.02	62.02	62.02	72.02	72.02	72.02	72.02	72.02
60 AMPL.	3538.85	2001.01	1137.33	649.88	373.45	218.82	129.04	76.58	45.74	27.48
PHASE	57.02	57.02	57.02	57.02	57.02	67.02	67.02	67.02	67.02	67.02
360 AMPL.	3972.93	2300.76	1344.62	793.46	473.04	285.03	173.60	106.94	66.58	41.92

KIEL  
GEOGRAPHIC LATITUDE = 54.33 GEOGRAPHIC LONGITUDE = 10.13  
SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 500.00 GV										
10 AMPL.	25308.00	8316.63	2754.34	919.79	333.50	146.65	84.26	49.56	29.43	17.65
PHASE	9.87	9.87	9.87	9.87	14.87	54.87	49.87	49.87	49.87	49.87
30 AMPL.	40982.18	14152.13	4992.48	1804.39	675.31	331.59	174.23	95.20	53.66	31.11
PHASE	19.87	19.87	19.87	19.87	44.87	49.87	49.87	49.87	49.87	54.87
60 AMPL.	63189.10	22126.77	8194.80	3196.34	1331.31	587.85	275.64	139.13	74.18	41.73
PHASE	9.87	29.87	29.87	34.87	34.87	34.87	39.87	39.87	44.87	59.87
360 AMPL.	97998.92	34309.48	12457.92	4736.93	1905.88	819.09	378.31	187.94	100.01	56.53
UPPER LIMIT = 188.75 GV										
10 AMPL.	10437.95	4028.33	1562.64	609.59	252.38	144.91	84.26	49.56	29.43	17.65
PHASE	14.87	14.87	14.87	14.87	49.87	49.87	49.87	49.87	49.87	49.87
30 AMPL.	17665.92	7063.39	2863.28	1179.08	594.29	310.52	167.59	93.10	52.99	30.90
PHASE	24.87	24.87	24.87	24.87	49.87	49.87	49.87	49.87	49.87	54.87
60 AMPL.	27220.11	11500.83	4995.87	2240.93	1041.82	503.22	252.73	132.39	72.84	41.31
PHASE	39.87	39.87	39.87	39.87	39.87	39.87	39.87	44.87	44.87	59.87
360 AMPL.	34875.99	14644.83	6317.45	2815.01	1302.90	629.48	318.57	169.05	94.02	54.64
UPPER LIMIT = 111.25 GV										
10 AMPL.	4819.79	2060.86	886.40	445.65	252.38	144.91	84.26	49.56	29.43	17.65
PHASE	19.87	19.87	19.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87
30 AMPL.	9405.66	4158.45	1985.95	1017.15	535.09	288.79	159.62	90.17	51.92	30.70
PHASE	29.87	29.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87	54.87
60 AMPL.	16622.51	7686.63	3633.83	1760.72	876.26	448.50	236.24	127.99	71.23	40.92
PHASE	44.87	44.87	44.87	44.87	44.87	44.87	44.87	44.87	44.87	59.87
360 AMPL.	20207.65	9260.11	4340.75	2089.36	1036.53	531.70	282.67	155.87	89.18	52.87
UPPER LIMIT = 80.00 GV										
10 AMPL.	2696.51	1455.42	798.90	445.65	252.38	144.91	84.26	49.56	29.43	17.65
PHASE	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87
30 AMPL.	5837.61	3028.06	1600.11	861.36	472.18	263.38	149.37	86.01	50.24	29.96
PHASE	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87	54.87
60 AMPL.	10641.15	5268.43	2656.10	1365.36	716.37	383.83	210.09	117.40	66.95	40.18
PHASE	44.87	44.87	44.87	44.87	44.87	44.87	44.87	44.87	44.87	59.87
360 AMPL.	12517.32	6150.99	3083.66	1581.03	830.95	448.55	249.04	142.26	83.68	50.64
UPPER LIMIT = 50.00 GV										
10 AMPL.	2307.87	1283.96	723.23	412.25	237.63	138.40	81.39	48.28	28.87	17.40
PHASE	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87
30 AMPL.	4398.55	2403.19	1326.77	740.23	417.31	238.58	138.52	81.27	48.18	29.15
PHASE	44.87	44.87	44.87	44.87	44.87	49.87	49.87	49.87	54.87	54.87
60 AMPL.	6540.53	3486.22	1881.00	1028.09	569.50	319.85	182.37	105.81	63.39	38.87
PHASE	44.87	44.87	44.87	44.87	44.87	44.87	49.87	49.87	59.87	64.87
360 AMPL.	7245.09	3859.58	2087.12	1147.39	642.12	366.27	213.15	126.62	76.85	47.63
UPPER LIMIT = 29.00 GV										
10 AMPL.	1567.08	929.14	553.19	330.70	198.49	119.62	72.36	43.94	26.78	16.39
PHASE	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87
30 AMPL.	3104.00	1780.92	1027.48	596.18	347.94	205.17	122.40	73.94	45.05	27.64
PHASE	44.87	44.87	44.87	44.87	44.87	49.87	49.87	54.87	54.87	54.87
60 AMPL.	3781.98	2166.75	1250.37	727.09	426.18	253.93	153.69	94.07	58.17	36.54
PHASE	49.87	49.87	49.87	49.87	49.87	54.87	59.87	59.87	59.87	64.87
360 AMPL.	3911.53	2262.93	1321.92	780.40	466.00	281.71	172.52	107.06	67.47	43.09



KIEV  
GEOGRAPHIC LATITUDE = 50.72 GEOGRAPHIC LONGITUDE = 30.30  
SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 800.00 GV										
10 AMPL.	26627.92	8807.12	2943.75	996.06	342.02	160.76	83.89	46.60	26.48	15.32
PHASE	9.70	9.70	9.70	9.70	9.70	54.70	59.70	59.70	59.70	59.70
30 AMPL.	43519.77	14754.63	5209.35	1883.74	699.51	328.68	170.86	91.99	50.96	28.89
PHASE	4.70	19.70	19.70	19.70	19.70	54.70	54.70	54.70	54.70	54.70
60 AMPL.	68283.36	23459.24	8617.43	3325.69	1369.24	593.77	274.72	135.81	69.96	37.61
PHASE	4.70	29.70	29.70	34.70	34.70	34.70	39.70	39.70	39.70	44.70
360 AMPL.	101566.41	35548.48	12900.17	4899.21	1966.75	841.93	386.45	190.31	100.04	55.65
UPPER LIMIT = 188.75 GV										
10 AMPL.	10217.49	3912.21	1504.12	586.90	296.47	155.21	83.89	46.60	26.48	15.32
PHASE	14.70	14.70	14.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70
30 AMPL.	18164.67	7236.99	2919.23	1220.58	600.28	306.84	163.98	89.82	50.28	28.67
PHASE	24.70	24.70	24.70	49.70	49.70	54.70	54.70	54.70	54.70	54.70
60 AMPL.	29040.57	12255.89	5304.28	2362.47	1086.07	516.34	254.07	129.28	67.90	37.17
PHASE	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	39.70	44.70
360 AMPL.	36131.17	15163.48	6534.78	2906.88	1341.69	645.36	324.51	170.73	93.86	53.66
UPPER LIMIT = 111.25 GV										
10 AMPL.	4650.29	1965.64	979.31	503.31	265.78	143.95	79.76	45.09	25.93	15.12
PHASE	19.70	19.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70
30 AMPL.	9661.80	4398.68	2157.37	1084.82	559.38	295.58	159.85	88.31	49.73	28.47
PHASE	29.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70
60 AMPL.	17213.95	7914.37	3710.51	1777.38	873.30	440.72	228.15	121.10	65.83	36.56
PHASE	39.70	39.70	39.70	39.70	44.70	44.70	44.70	44.70	44.70	44.70
360 AMPL.	20925.51	9581.52	4485.65	2154.63	1065.55	544.01	287.31	157.08	88.85	51.84
UPPER LIMIT = 80.00 GV										
10 AMPL.	2940.36	1517.57	800.10	430.61	236.28	131.98	74.90	43.11	25.12	14.79
PHASE	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70
30 AMPL.	6529.05	3324.36	1722.98	909.17	488.34	266.85	148.23	83.61	47.82	27.70
PHASE	54.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70
60 AMPL.	11013.50	5407.60	2696.94	1367.53	707.54	373.68	201.04	110.13	61.53	35.33
PHASE	39.70	39.70	39.70	39.70	44.70	44.70	44.70	44.70	49.70	64.70
360 AMPL.	12953.50	6358.54	3182.48	1627.68	852.44	457.82	252.46	142.97	83.13	49.54
UPPER LIMIT = 50.00 GV										
10 AMPL.	1924.01	1078.62	610.43	348.61	200.81	116.63	68.26	40.23	23.88	14.26
PHASE	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70
30 AMPL.	4509.09	2443.65	1338.74	741.42	415.06	234.82	134.22	77.46	45.14	26.53
PHASE	54.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70
60 AMPL.	6762.65	3560.09	1893.46	1023.45	560.98	311.15	174.65	99.19	57.14	34.05
PHASE	39.70	39.70	39.70	49.70	49.70	49.70	49.70	49.70	54.70	64.70
360 AMPL.	7488.12	3983.17	2149.45	1178.12	656.69	372.53	215.25	126.73	76.05	46.45
UPPER LIMIT = 29.00 GV										
10 AMPL.	1540.05	894.72	522.29	306.34	180.53	106.89	63.58	37.98	22.79	13.74
PHASE	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70
30 AMPL.	3024.57	1718.28	986.19	572.36	333.93	195.86	115.51	68.46	40.80	24.44
PHASE	49.70	49.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70	54.70
60 AMPL.	3809.80	2169.13	1242.64	716.45	415.85	243.04	143.05	85.54	51.85	31.64
PHASE	54.70	54.70	54.70	54.70	54.70	54.70	54.70	64.70	64.70	64.70
360 AMPL.	4032.45	2328.02	1356.21	797.73	474.14	284.87	173.14	106.48	66.30	41.74

LEEDS  
GEOGRAPHIC LATITUDE = 53.82 GEOGRAPHIC LONGITUDE = 358.45  
SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 500.00 GV										
10 AMPL.	24435.23	8185.95	2770.27	947.51	327.68	151.10	86.92	50.94	30.26	18.16
PHASE	-348.45	-348.45	-348.45	-348.45	-348.45	-308.45	-308.45	-308.45	-308.45	-308.45
30 AMPL.	40975.11	13753.65	4808.54	1758.35	703.63	343.27	176.37	94.58	53.88	31.68
PHASE	-353.45	-353.45	-338.45	-338.45	-313.45	-313.45	-313.45	-313.45	-303.45	-303.45
60 AMPL.	62743.81	21925.12	8177.00	3196.74	1319.09	582.99	274.86	136.97	73.34	42.25
PHASE	-8.45	-328.45	-328.45	-328.45	-328.45	-323.45	-323.45	-323.45	-313.45	-308.45
360 AMPL.	97732.99	34216.89	12424.81	4724.70	1901.19	817.38	377.68	187.78	99.96	56.62
UPPER LIMIT = 188.75 GV										
10 AMPL.	8783.40	3420.07	1338.85	527.10	251.51	145.69	85.33	50.47	30.12	18.12
PHASE	-343.45	-343.45	-343.45	-343.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45
30 AMPL.	15505.36	6210.93	2520.18	1166.81	588.35	306.65	165.21	92.14	53.22	31.47
PHASE	-338.45	-338.45	-338.45	-313.45	-313.45	-313.45	-308.45	-308.45	-303.45	-303.45
60 AMPL.	26780.93	11296.18	4897.73	2192.32	1016.86	489.94	247.45	130.53	72.02	41.83
PHASE	-323.45	-323.45	-323.45	-323.45	-323.45	-323.45	-318.45	-318.45	-313.45	-308.45
360 AMPL.	34782.10	14605.83	6301.12	2808.06	1299.90	628.28	318.10	168.96	94.00	54.73
UPPER LIMIT = 111.25 GV										
10 AMPL.	4296.38	1872.09	845.31	439.43	251.51	145.69	85.33	50.47	30.12	18.12
PHASE	-338.45	-338.45	-313.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45
30 AMPL.	8086.39	3907.04	1958.13	1005.99	529.32	284.98	158.46	90.41	52.68	31.28
PHASE	-303.45	-303.45	-313.45	-313.45	-313.45	-313.45	-303.45	-303.45	-303.45	-303.45
60 AMPL.	15987.77	7391.29	3494.63	1693.97	843.49	432.54	230.03	125.65	70.90	41.44
PHASE	-318.45	-318.45	-318.45	-318.45	-318.45	-313.45	-313.45	-313.45	-308.45	-308.45
360 AMPL.	20153.75	9235.80	4329.78	2084.37	1034.24	530.75	282.29	155.82	89.16	52.95
UPPER LIMIT = 80.00 GV										
10 AMPL.	2592.07	1395.82	777.78	439.43	251.51	145.69	85.33	50.47	30.12	18.12
PHASE	-338.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45
30 AMPL.	6269.45	3215.71	1679.54	893.34	483.76	266.55	149.32	85.90	50.85	30.54
PHASE	-313.45	-313.45	-313.45	-313.45	-313.45	-313.45	-313.45	-303.45	-303.45	-303.45
60 AMPL.	10620.54	5259.96	2652.97	1364.50	716.39	384.16	210.45	118.09	68.46	40.52
PHASE	-313.45	-313.45	-313.45	-313.45	-313.45	-313.45	-313.45	-308.45	-308.45	-298.45
360 AMPL.	12484.40	6135.16	3076.10	1577.42	829.24	447.84	248.76	142.26	83.67	50.73
UPPER LIMIT = 50.00 GV										
10 AMPL.	2350.79	1310.28	739.41	422.21	243.78	142.22	83.77	49.78	29.81	17.98
PHASE	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45
30 AMPL.	4516.84	2453.99	1348.28	749.18	420.99	239.20	137.37	81.26	48.84	29.65
PHASE	-313.45	-313.45	-313.45	-313.45	-313.45	-313.45	-313.45	-303.45	-303.45	-303.45
60 AMPL.	6531.10	3482.60	1880.02	1028.12	572.03	324.06	186.31	108.71	64.38	39.19
PHASE	-313.45	-313.45	-313.45	-313.45	-308.45	-308.45	-308.45	-308.45	-308.45	-298.45
360 AMPL.	7226.54	3849.98	2082.29	1144.94	640.91	365.79	212.97	126.62	76.88	47.75
UPPER LIMIT = 29.00 GV										
10 AMPL.	1612.02	956.43	569.82	340.88	204.75	123.49	74.76	45.45	27.73	16.98
PHASE	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45
30 AMPL.	3039.29	1746.29	1009.10	586.52	342.93	204.37	123.15	74.77	45.71	28.15
PHASE	-313.45	-313.45	-313.45	-313.45	-313.45	-303.45	-303.45	-303.45	-303.45	-303.45
60 AMPL.	3804.87	2184.51	1263.89	737.20	433.67	257.40	154.17	94.26	58.52	36.69
PHASE	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-308.45	-298.45	-298.45	-298.45
360 AMPL.	3902.06	2257.67	1319.14	778.98	465.27	281.46	172.44	107.17	67.51	43.25

DULU  
GEOGRAPHIC LATITUDE = 65.00 GEOGRAPHIC LONGITUDE = 25.42  
SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 500.00 GV										
10 AMPL.	23169.59	8027.91	2844.94	1034.17	386.71	153.56	86.31	50.55	30.42	18.66
PHASE	14.58	14.58	14.58	14.58	14.58	39.58	39.58	39.58	39.58	39.58
30 AMPL.	34203.31	11912.27	4259.61	1613.90	699.78	330.66	184.56	107.42	64.93	40.53
PHASE	14.58	14.58	14.58	24.58	24.58	39.58	39.58	39.58	44.58	44.58
60 AMPL.	51827.32	17882.50	6840.56	2774.32	1202.92	563.04	283.23	152.03	86.11	51.02
PHASE	4.58	29.58	29.58	29.58	29.58	34.58	39.58	39.58	39.58	39.58
360 AMPL.	96997.81	33960.61	12332.64	4690.46	1888.13	812.25	375.79	187.20	100.05	56.85
UPPER LIMIT = 188.75 GV										
10 AMPL.	9286.04	3702.78	1494.38	611.46	254.09	132.71	79.74	48.47	29.76	18.45
PHASE	14.58	14.58	14.58	14.58	14.58	39.58	39.58	39.58	39.58	39.58
30 AMPL.	13713.20	5841.96	2593.97	1131.19	567.16	309.81	177.99	105.34	64.27	40.32
PHASE	19.58	24.58	24.58	24.58	24.58	39.58	39.58	39.58	44.58	44.58
60 AMPL.	22729.16	9832.82	4392.83	2037.11	984.91	497.95	263.52	145.80	84.13	50.39
PHASE	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58
360 AMPL.	34521.82	14497.51	6255.14	2788.24	1291.35	624.58	316.65	168.52	94.11	54.98
UPPER LIMIT = 111.25 GV										
10 AMPL.	4730.42	2030.34	878.43	383.54	223.69	132.71	79.74	48.47	29.76	18.45
PHASE	19.58	19.58	19.58	19.58	39.58	39.58	39.58	39.58	39.58	39.58
30 AMPL.	8885.97	4185.87	2028.26	1013.08	528.39	299.06	174.04	103.89	63.73	40.12
PHASE	29.58	29.58	29.58	29.58	39.58	39.58	39.58	39.58	44.58	44.58
60 AMPL.	14663.61	6871.97	3305.92	1638.10	838.43	444.18	243.78	138.55	81.46	49.41
PHASE	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58
360 AMPL.	20003.83	9167.98	4298.70	2070.03	1027.71	527.80	281.11	155.47	89.37	53.20
UPPER LIMIT = 80.00 GV										
10 AMPL.	2193.26	1098.69	632.36	369.06	218.13	130.42	78.80	48.08	29.60	18.39
PHASE	19.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58
30 AMPL.	5503.09	2826.16	1531.97	850.39	483.17	280.77	166.68	101.42	62.97	39.82
PHASE	29.58	39.58	39.58	39.58	39.58	39.58	44.58	44.58	44.58	44.58
60 AMPL.	9589.28	4820.46	2476.43	1302.70	702.78	389.32	221.59	129.58	77.84	47.96
PHASE	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58
360 AMPL.	12392.34	6090.72	3054.46	1566.93	824.23	445.51	247.83	142.01	83.88	51.01
UPPER LIMIT = 50.00 GV										
10 AMPL.	1783.41	1016.40	597.66	354.43	211.96	127.82	77.70	47.62	29.41	18.30
PHASE	34.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58
30 AMPL.	4104.94	2289.70	1298.00	748.21	438.70	261.70	158.79	97.99	61.47	39.16
PHASE	44.58	44.58	44.58	44.58	44.58	44.58	44.58	44.58	44.58	44.58
60 AMPL.	6110.48	3308.50	1818.89	1016.54	578.17	335.03	197.91	119.27	73.33	45.99
PHASE	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58
360 AMPL.	7174.14	3822.79	2068.15	1137.70	637.31	364.07	212.33	126.54	77.10	48.05
UPPER LIMIT = 29.00 GV										
10 AMPL.	1561.86	927.28	553.89	332.94	201.40	122.44	75.16	46.37	28.80	17.99
PHASE	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58
30 AMPL.	3061.34	1801.31	1069.60	641.24	388.31	237.62	146.97	91.91	58.11	37.36
PHASE	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	39.58	44.58
60 AMPL.	3729.42	2165.88	1270.22	752.92	451.46	274.07	168.57	105.13	66.57	42.71
PHASE	44.58	44.58	44.58	44.58	44.58	44.58	44.58	44.58	44.58	44.58
360 AMPL.	3874.73	2242.52	1310.77	774.49	463.05	280.38	172.12	107.19	67.79	43.55



PIC DU MIDI  
GEOGRAPHIC LATITUDE = 42.93 GEOGRAPHIC LONGITUDE = 0.25  
SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)		+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 300.00 GV											
10	AMPL.	27998.35	9270.99	3102.75	1051.60	362.02	134.81	52.28	20.88	9.91	5.28
	PHASE	9.75	9.75	9.75	9.75	9.75	14.75	14.75	14.75	64.75	64.75
30	AMPL.	51772.51	17533.30	6039.81	2120.75	760.74	284.45	110.95	52.16	27.70	14.92
	PHASE	14.75	14.75	14.75	14.75	14.75	19.75	24.75	64.75	64.75	64.75
60	AMPL.	77793.27	26358.34	9237.77	3366.52	1265.06	510.69	215.80	97.28	48.03	26.23
	PHASE	9.75	9.75	24.75	24.75	24.75	34.75	34.75	39.75	64.75	84.75
360	AMPL.	106830.83	37451.17	13605.52	5166.72	2069.49	881.00	400.40	194.13	100.00	54.30
UPPER LIMIT = 188.75 GV											
10	AMPL.	12750.80	4871.79	1872.23	724.72	283.17	112.03	45.10	19.02	9.91	5.28
	PHASE	14.75	14.75	14.75	14.75	14.75	14.75	14.75	59.75	64.75	64.75
30	AMPL.	20726.42	8222.73	3294.71	1335.03	547.89	228.13	99.82	52.16	27.70	14.92
	PHASE	24.75	24.75	24.75	24.75	24.75	24.75	64.75	64.75	64.75	64.75
60	AMPL.	29720.85	12236.21	5138.81	2194.67	956.36	425.84	193.99	90.47	47.31	26.23
	PHASE	39.75	39.75	39.75	39.75	39.75	39.75	39.75	39.75	64.75	84.75
360	AMPL.	38675.94	16212.42	6971.54	3089.71	1417.67	675.98	335.75	173.70	93.52	52.24
UPPER LIMIT = 111.25 GV											
10	AMPL.	5101.67	2108.24	872.69	361.89	153.82	75.33	37.53	19.02	9.91	5.28
	PHASE	19.75	19.75	19.75	19.75	59.75	59.75	59.75	59.75	64.75	64.75
30	AMPL.	10853.13	4678.96	2031.40	888.67	396.55	191.42	95.40	50.54	27.11	14.70
	PHASE	29.75	29.75	29.75	29.75	49.75	49.75	64.75	64.75	64.75	64.75
60	AMPL.	17100.10	7660.93	3475.97	1598.96	746.39	353.79	170.38	86.52	46.72	26.23
	PHASE	44.75	44.75	44.75	44.75	44.75	44.75	44.75	64.75	64.75	84.75
360	AMPL.	22426.17	10247.15	4781.71	2285.83	1122.56	567.64	295.98	159.11	88.15	50.28
UPPER LIMIT = 80.00 GV											
10	AMPL.	2214.22	1080.05	536.36	268.94	136.19	69.67	36.00	18.80	9.91	5.28
	PHASE	59.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75
30	AMPL.	5795.77	2804.34	1370.52	676.68	337.61	172.14	91.24	48.86	26.43	14.42
	PHASE	54.75	54.75	54.75	54.75	54.75	64.75	64.75	64.75	64.75	64.75
60	AMPL.	10446.70	4970.84	2388.22	1173.48	583.80	293.75	150.37	81.48	44.68	25.95
	PHASE	44.75	44.75	44.75	49.75	49.75	49.75	64.75	64.75	64.75	84.75
360	AMPL.	13871.79	6788.46	3383.18	1720.27	893.85	475.13	258.53	143.98	82.03	47.79
UPPER LIMIT = 50.00 GV											
10	AMPL.	1542.23	790.39	407.79	211.86	110.84	58.41	31.00	16.57	8.92	5.12
	PHASE	64.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75	74.75
30	AMPL.	3613.21	1869.01	987.40	525.23	281.28	151.67	82.32	44.96	24.73	13.68
	PHASE	54.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75
60	AMPL.	6169.06	3175.44	1645.24	858.17	452.50	246.33	135.22	74.83	42.47	25.30
	PHASE	54.75	54.75	54.75	54.75	64.75	64.75	64.75	64.75	84.75	84.75
360	AMPL.	7975.78	4225.38	2268.27	1234.98	682.45	382.99	218.38	126.44	74.39	44.44
UPPER LIMIT = 29.00 GV											
10	AMPL.	842.25	471.14	264.44	148.93	84.17	47.74	27.17	15.51	8.90	5.12
	PHASE	74.75	74.75	74.75	74.75	74.75	74.75	74.75	74.75	74.75	74.75
30	AMPL.	2093.28	1162.78	647.60	361.62	202.48	113.68	63.99	36.13	21.35	12.70
	PHASE	64.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75	79.75	79.75
60	AMPL.	3292.83	1841.27	1033.43	582.24	329.34	187.03	109.55	65.52	39.38	23.81
	PHASE	64.75	64.75	64.75	64.75	64.75	64.75	84.75	84.75	84.75	84.75
360	AMPL.	4202.22	2417.28	1401.37	819.07	482.82	287.09	172.27	104.29	63.68	39.30

ROME  
GEOGRAPHIC LATITUDE = 41.90 GEOGRAPHIC LONGITUDE = 12.52  
SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 900.00 GV										
10 AMPL.	32594.79	10525.94	3428.83	1128.40	375.86	133.17	48.65	19.99	10.15	5.22
PHASE	7.48	7.48	7.48	7.48	7.48	12.48	12.48	57.48	57.48	57.48
30 AMPL.	59968.82	20129.60	6868.66	2386.83	846.07	306.58	116.56	52.63	26.37	14.18
PHASE	12.48	12.48	12.48	12.48	12.48	17.48	17.48	57.48	57.48	67.48
60 AMPL.	86401.42	29286.77	10268.97	3745.55	1408.62	547.50	223.32	98.10	47.04	24.31
PHASE	12.48	12.48	27.48	27.48	27.48	27.48	37.48	37.48	52.48	72.48
360 AMPL.	117513.09	41052.68	14843.54	5599.94	2222.66	934.55	417.93	198.68	100.02	52.87
UPPER LIMIT = 188.75 GV										
10 AMPL.	11256.71	4228.60	1595.80	605.57	231.33	89.06	39.89	19.99	10.15	5.22
PHASE	12.48	12.48	12.48	12.48	12.48	12.48	57.48	57.48	57.48	57.48
30 AMPL.	20627.03	8141.87	3243.85	1305.68	531.39	223.05	102.06	50.11	26.30	14.18
PHASE	22.48	22.48	22.48	22.48	22.48	27.48	52.48	57.48	67.48	67.48
60 AMPL.	31439.50	12887.50	5364.36	2271.04	979.32	430.66	194.76	91.21	45.45	24.05
PHASE	37.48	37.48	37.48	37.48	37.48	37.48	42.48	42.48	52.48	72.48
360 AMPL.	41670.61	17425.53	7465.76	3290.75	1498.17	706.74	346.12	176.01	92.84	50.60
UPPER LIMIT = 111.25 GV										
10 AMPL.	5642.68	2370.01	998.39	421.92	178.91	80.71	39.89	19.99	10.15	5.22
PHASE	22.48	22.48	22.48	22.48	22.48	57.48	57.48	57.48	57.48	57.48
30 AMPL.	11456.27	4970.84	2172.94	957.57	425.64	198.77	97.27	49.27	26.30	14.18
PHASE	32.48	32.48	32.48	32.48	32.48	52.48	52.48	67.48	67.48	67.48
60 AMPL.	18069.08	8050.75	3628.57	1655.92	770.81	366.72	177.22	86.97	44.15	23.81
PHASE	42.48	42.48	42.48	42.48	47.48	47.48	47.48	47.48	52.48	72.48
360 AMPL.	24046.54	10955.77	5090.72	2418.89	1178.11	589.26	302.99	160.18	87.02	48.46
UPPER LIMIT = 80.00 GV										
10 AMPL.	2702.94	1233.36	565.05	277.67	138.31	69.62	35.40	18.17	9.42	4.92
PHASE	27.48	27.48	27.48	57.48	57.48	57.48	57.48	57.48	57.48	57.48
30 AMPL.	6087.16	2800.77	1378.77	685.36	344.01	174.35	89.21	47.45	25.57	13.88
PHASE	32.48	57.48	57.48	57.48	57.48	57.48	57.48	67.48	67.48	67.48
60 AMPL.	10994.31	5232.92	2515.18	1225.55	608.86	305.71	155.14	79.54	42.27	23.44
PHASE	47.48	47.48	47.48	52.48	52.48	52.48	52.48	52.48	72.48	72.48
360 AMPL.	14806.60	7220.14	3580.29	1808.14	931.10	489.36	262.57	143.83	80.42	45.79
UPPER LIMIT = 50.00 GV										
10 AMPL.	1584.23	808.85	415.68	215.08	112.08	58.82	31.09	16.55	8.87	4.79
PHASE	67.48	67.48	67.48	67.48	67.48	67.48	67.48	67.48	67.48	67.48
30 AMPL.	3869.22	1982.94	1021.79	529.44	276.76	148.94	80.59	43.84	23.98	13.18
PHASE	57.48	57.48	57.48	57.48	67.48	67.48	67.48	67.48	67.48	67.48
60 AMPL.	6416.26	3284.10	1690.46	875.19	455.79	238.79	128.52	71.24	39.76	22.34
PHASE	52.48	52.48	52.48	52.48	52.48	52.48	72.48	72.48	72.48	72.48
360 AMPL.	8471.96	4466.98	2382.98	1287.07	704.23	390.49	219.45	125.03	72.19	42.19
UPPER LIMIT = 29.00 GV										
10 AMPL.	783.42	427.15	233.19	127.46	69.75	39.31	22.35	12.73	7.28	4.17
PHASE	57.48	57.48	57.48	57.48	57.48	77.48	77.48	77.48	77.48	77.48
30 AMPL.	2163.07	1194.84	661.48	367.03	204.10	113.77	63.56	35.59	19.99	11.25
PHASE	67.48	67.48	67.48	67.48	67.48	67.48	67.48	67.48	67.48	67.48
60 AMPL.	3335.02	1846.86	1025.61	571.19	320.75	182.11	103.73	59.80	34.80	20.32
PHASE	67.48	67.48	67.48	67.48	72.48	72.48	72.48	82.48	82.48	82.48
360 AMPL.	4466.68	2548.61	1463.57	846.17	492.64	288.91	170.65	101.56	60.93	36.76

UTRECHT  
GEOGRAPHIC LATITUDE = 52.06 GEOGRAPHIC LONGITUDE = 5.07  
SQUARE WAVE AMPLITUDE AND PHASE (DEGREES)

WIDTH/BETA = (DEG)	+1.6	+1.4	+1.2	+1.0	+0.8	+0.6	+0.4	+0.2	0.0	-0.2
UPPER LIMIT = 500.00 GV										
10 AMPL.	23536.82	7802.02	2674.35	964.89	368.22	182.79	96.34	53.20	30.38	17.79
PHASE	9.93	9.93	14.93	14.93	54.93	54.93	54.93	54.93	54.93	54.93
30 AMPL.	41996.57	14096.34	4828.79	1750.87	683.96	336.26	174.85	94.38	52.48	30.14
PHASE	4.93	4.93	19.93	19.93	44.93	49.93	49.93	49.93	49.93	59.93
60 AMPL.	65846.28	22988.32	8493.58	3277.99	1330.62	584.84	273.37	136.09	70.96	39.92
PHASE	349.93	29.93	29.93	29.93	29.93	34.93	39.93	39.93	44.93	49.93
360 AMPL.	99498.63	34831.29	12644.77	4805.89	1931.95	829.01	381.95	189.00	100.00	56.09
UPPER LIMIT = 188.75 GV										
10 AMPL.	11862.10	4521.43	1729.98	664.67	300.20	161.39	89.60	51.07	29.71	17.57
PHASE	14.93	14.93	14.93	14.93	54.93	54.93	54.93	54.93	54.93	54.93
30 AMPL.	17828.27	7109.59	2871.57	1214.97	608.20	314.86	168.11	92.25	51.81	29.92
PHASE	24.93	24.93	24.93	49.93	49.93	49.93	49.93	49.93	49.93	59.93
60 AMPL.	27957.93	11792.84	5107.18	2279.88	1052.63	503.78	250.10	128.70	69.61	39.49
PHASE	39.93	39.93	39.93	39.93	39.93	39.93	39.93	39.93	44.93	49.93
360 AMPL.	35405.41	14864.36	6409.93	2854.42	1319.72	636.47	321.24	169.83	93.93	54.14
UPPER LIMIT = 111.25 GV										
10 AMPL.	5223.25	2194.13	945.46	498.02	270.14	150.36	85.55	49.58	29.17	17.37
PHASE	19.93	19.93	54.93	54.93	54.93	54.93	54.93	54.93	54.93	54.93
30 AMPL.	9189.29	4174.22	2068.10	1051.23	548.09	292.80	160.01	89.27	50.73	29.72
PHASE	29.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93	59.93
60 AMPL.	16799.43	7750.24	3651.81	1761.44	871.38	442.64	230.96	123.75	68.17	39.09
PHASE	44.93	44.93	44.93	44.93	44.93	44.93	44.93	44.93	49.93	49.93
360 AMPL.	20511.61	9396.87	4402.84	2117.61	1049.25	537.19	284.79	156.43	89.07	52.33
UPPER LIMIT = 80.00 GV										
10 AMPL.	2439.90	1280.17	695.52	397.19	229.46	133.94	78.93	46.91	28.09	16.93
PHASE	49.93	49.93	54.93	54.93	54.93	54.93	54.93	54.93	54.93	54.93
30 AMPL.	6036.42	3121.92	1642.63	879.19	478.51	264.66	148.63	84.67	49.28	29.71
PHASE	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93	59.93	59.93
60 AMPL.	10726.12	5294.86	2659.05	1360.01	709.03	376.98	205.50	115.08	65.64	38.09
PHASE	44.93	44.93	44.93	44.93	44.93	44.93	49.93	49.93	49.93	49.93
360 AMPL.	12703.08	6239.95	3126.44	1601.48	840.52	452.77	250.66	142.62	83.44	50.07
UPPER LIMIT = 50.00 GV										
10 AMPL.	2045.28	1149.04	659.92	382.18	223.13	131.28	77.80	46.43	27.89	16.85
PHASE	49.93	54.93	54.93	54.93	54.93	54.93	54.93	54.93	54.93	54.93
30 AMPL.	4452.18	2430.79	1340.95	747.42	420.93	239.48	137.60	79.84	47.17	28.30
PHASE	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93	59.93	59.93
60 AMPL.	6621.71	3525.96	1900.04	1036.74	573.13	321.09	182.33	104.96	61.21	36.16
PHASE	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93
360 AMPL.	7349.77	3913.31	2114.61	1161.14	648.78	369.23	214.22	126.74	76.50	47.06
UPPER LIMIT = 29.00 GV										
10 AMPL.	1645.69	966.17	570.11	338.08	201.47	120.64	72.58	43.86	26.63	16.24
PHASE	54.93	54.93	54.93	54.93	54.93	54.93	54.93	54.93	54.93	54.93
30 AMPL.	3137.73	1798.97	1037.05	601.17	350.50	205.54	121.24	71.93	42.94	26.26
PHASE	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93	59.93
60 AMPL.	3802.90	2173.61	1250.81	724.89	423.24	248.99	147.63	88.92	54.43	33.60
PHASE	49.93	49.93	49.93	49.93	49.93	49.93	49.93	64.93	64.93	64.93
360 AMPL.	3964.95	2292.13	1337.62	788.54	469.98	283.37	172.97	106.88	66.96	42.47